

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Product Name	Polyol TD		
Chemical Name	CAS No	EC No	REACH registration number
Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl-1,3-dioxane-5-methanol and propylidynetrimehanol	XXX-XX-X	904-153-2	01-2119488034-38-0000
Pure substance/mixture	Substance		

1.2. Relevant identified uses of the substance or mixture and uses advised against

Industrial	Manufacture of substances. Formulation. Distribution and storage. Use in adhesives, in sealants, in hydraulic fluids, in lubricants, in paints, in lacquers and in plaster. Manufacture: of oligomers, of polymers, of polyurethane foams, of elastomers and other solid polyurethane materials.
Professional	Use in adhesives, in sealants, in hydraulic fluids, in paints, in lubricants, in lacquers, in plaster, in polyurethane foams, in elastomers and other solid polyurethane materials. Laboratory chemicals. Road and construction applications.
Consumer	Use in adhesives, in sealants, in hydraulic fluids, in lubricants, in paints, in lacquers, in plaster, in polyurethane foams, in elastomers and other solid polyurethane materials.
Uses advised against	Not identified.

1.3. Details of the supplier of the safety data sheet**Manufacturer**

Perstorp Specialty Chemicals AB
SE-284 80 Perstorp, Sweden
Tel. +46 435 380 00
www.perstorp.com

E-mail address productinfo@perstorp.com

1.4. Emergency telephone number

Europe (+)1 760 476 3961 (contract no: 334101)
United Kingdom (+)44 8 08 189 0979 (contract no: 334101)

SECTION 2: Hazards identification**Hazards description**

Causes severe eye irritation

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]
Serious eye damage/eye irritation

Category 2 - (H319)

2.2. Label elements

Symbols/Pictograms

**Signal word**

Warning

Hazard statements

H319 - Causes serious eye irritation

Precautionary Statements

P264 - Wash hands thoroughly after handling

P280 - Wear protective gloves and eye/face protection

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P337 + P313 - If eye irritation persists: Get medical advice/attention

Contains: Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl-1,3-dioxane-5-methanol and propylidynetrimethanol

2.3. Other hazards

None known

SECTION 3: Composition/information on ingredients**3.1 Substances**

Chemical Name	EC No	CAS No	REACH registration number	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl-1,3-dioxane-5-methanol and propylidynetrimethanol	904-153-2	XXX-XX-X	01-2119488034-38-0000	80-90	Eye Irrit. 2A (H319)

Full text of H- and EUH-phrases: see section 16

SECTION 4: First aid measures**4.1. Description of first aid measures****Inhalation**

Immediate medical attention is not required. Remove to fresh air.

Skin contact

Immediate medical attention is not required. Wash skin with soap and water.

Eye contact

Rinse thoroughly with plenty of water, also under the eyelids. Use lukewarm water if possible. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion

Rinse mouth. Drink plenty of water. If a large quantity has been ingested or you feel unwell, get medical advice/attention.

Self-protection of the first aider

Use personal protective equipment as required.

4.2. Most important symptoms and effects, both acute and delayed

Causes severe irritation (tears, blurred vision and redness)

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically

SECTION 5: Firefighting measures

5.1. Extinguishing media**Suitable extinguishing media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture**Hazardous combustion products**

Carbon monoxide (CO), Carbon dioxide (CO₂).

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Wear tightly sealed goggles. Wear gloves, protective clothing and rubber boots for hygienic reasons. Ensure adequate ventilation, especially in confined areas.

6.2. Environmental precautions

Do not allow into any sewer, on the ground or into any body of water. Local authorities should be advised if significant spillages cannot be contained. See Section 12 for additional ecological information.

6.3. Methods and material for containment and cleaning up**Methods for containment**

Prevent further leakage or spillage if safe to do so.

Small spill	Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal
Large spill	Pump up the product into a spare container suitably labelled.

Methods for cleaning up

Pick up and transfer to properly labelled containers. Clean contaminated surface thoroughly. Use Water (with cleaning agent). After cleaning, flush away traces with water.

6.4. Reference to other sections

See Section 7, 8, 13 for more information.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Design work place, in such a way that splashes from the product is prevented. Avoid: aerosol or mist formation. Ensure adequate ventilation, especially in confined areas. Use personal protection recommended in Section 8.

General Hygiene Considerations

Wash hands before breaks and after work. Avoid contact with eyes.

7.2. Conditions for safe storage, including any incompatibilities

No special measures are necessary.

7.3. Specific end use(s)

For details, see the separate exposure scenario(s).

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Exposure Limits**

Keep personal exposure levels below Derived No Effect Level (DNEL) and national exposure limit values (if existing).

Derived No Effect Level (DNEL) - worker

Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl-1,3-dioxane-5-methanol and propylidynetrimehanol (XXX-XX-X)			
Type	Exposure route	DNEL	Remarks

Chronic effects, systemic	Dermal	4.2	mg/kg bw/d
Chronic effects, systemic	Inhalation	14.6	mg/m ³

Derived No Effect Level (DNEL) - Consumer**Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl-1,3-dioxane-5-methanol and propylidynetrimethanol (XXX-XX-X)**

Type	Exposure route	DNEL	Remarks
Chronic effects, systemic	Oral	2.5	mg/kg bw/d
Chronic effects, systemic	Dermal	2.5	mg/kg bw/d
Chronic effects, systemic	Inhalation	4.4	mg/m ³

Predicted No Effect Concentration (PNEC)**Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl-1,3-dioxane-5-methanol and propylidynetrimethanol (XXX-XX-X)**

Environmental compartment	Predicted No Effect Concentration (PNEC)	Remarks
Freshwater	0.743	mg/l
Intermittent	7.43	mg/l
Marine water	0.074	mg/l
Impact on Sewage Treatment	100	mg/l

8.2. Exposure controls**Appropriate engineering controls**

Emergency eyewash facilities must be located in the vicinity of where the product is handled.

Individual protection measures, such as personal protective equipment

Eye/face protection	Tight sealing safety goggles.
Hand Protection	Wear protective gloves. Chloroprene rubber, CR. Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves.
Skin and body protection	Normal work clothes for the chemical industry (long legs and sleeves).
Respiratory protection	None under normal use conditions.

Environmental exposure controls

Not determined.

Additional information

Further information concerning special risk management measures: see annex of this safety data sheet (exposure scenarios).

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties****Appearance**

liquid
colourless

Odour

characteristic

Odour threshold

No data available

Property**Value****Remarks • Method****pH**

6.5

@ 20 °C

Melting point / freezing point

< -26 °C / -15 °F

Boiling point / boiling range

233 °C / 451 °F

OECD Test No. 103: Boiling Point

Flash point

119 °C / 246 °F

ASTM D 7094-04

Evaporation rate

No information available

Flammability (solid, gas)

Not applicable

Explosive limits

Upper explosive limits

Not applicable

Lower explosive limits

Not applicable

Vapour pressure

0.005 kPa

@25°C; SPARC

Vapour density

No information available

Relative density

No information available

Water solubility

>1000 g/L

@ 20 °C OECD Test No. 105: Water Solubility

Solubility(ies)

No information available

Partition coefficient

0.19

log POW (OECD 107) Partition Coefficient

Autoignition temperature

330 °C / 626 °F

(n-octanol/water)

Decomposition temperature

ASTM E 659-78

No information available

Kinematic viscosity		No information available
Dynamic viscosity	260 mPa s	@20°C; ISO 3219
Explosive properties	Not explosive.	
Oxidising properties	Not oxidising.	
Density	1.07 g/cm ³	@20°C; ISO 2811-2
Bulk density		No information available

9.2. Other information

No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

There exists no specific test data for this product. For further information, see the subsequent subsections of this chapter.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

None known.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

None known

10.6. Hazardous decomposition products

Thermal decomposition can lead to release of irritating and toxic gases and vapours: Carbon monoxide (CO), Carbon dioxide (CO₂).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Information on likely routes of exposure

Dermal. Inhalation.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: Causes severe irritation (tears, blurred vision and redness).

Numerical measures of toxicity

Acute toxicity

Product does not present an acute toxicity hazard based on known or supplied information. Theoretical assessments of the toxicokinetic properties indicate rapid and extensive absorption and distribution. Extensive hepatic metabolism and urinary excretion of metabolites is likely to limit systemic exposure and no bioaccumulation is predicted.

Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl-1,3-dioxane-5-methanol and propylidynetrimethanol (XXX-XX-X)				
Method	Species	Exposure route	Effective dose	Remarks
OECD Test No. 423: Acute Oral toxicity - Acute Toxic Class Method	Rat	Oral	>2000	mg/kg LD50 (lethal dose)
OECD Test No. 402: Acute Dermal Toxicity	Rabbit	Dermal	>10000	mg/kg LD50 (lethal dose) read-across from supporting substance (structural analogue)

Skin corrosion/irritation

Non-irritating to the skin.

Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl-1,3-dioxane-5-methanol and propylidynetrimethanol (XXX-XX-X)			
Method	Species	Exposure route	Results:
OECD Test No. 404: Acute Dermal	Rabbit	Dermal	Non-irritating to the skin No

Irritation/Corrosion			classification according to GHS criteria. read-across from supporting substance (structural analogue)
ECVAM Skin Irritation Validation Study (SIVS)	in vitro		Non-irritating to the skin No classification according to GHS criteria. read-across from supporting substance (structural analogue)

Serious eye damage/eye irritation

Irritating to eyes.

Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl-1,3-dioxane-5-methanol and propylidynetrimethanol (XXX-XX-X)			
Method	Species	Exposure route	Results:
OECD Test No. 405: Acute Eye Irritation/Corrosion	Rabbit	Eye	Irritating to eyes

Respiratory or skin sensitisation

No sensitising effects known.

Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl-1,3-dioxane-5-methanol and propylidynetrimethanol (XXX-XX-X)			
Method	Species	Exposure route	Results:
OECD Test No. 429: Skin Sensitisation: Local Lymph Node Assay	Mouse	Skin	Not a skin sensitiser read-across from supporting substance (structural analogue)

Germ cell mutagenicity

Not mutagenic.

Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl-1,3-dioxane-5-methanol and propylidynetrimethanol (XXX-XX-X)			
Method	Species	Exposure route	Results:
OECD Test No. 471: Bacterial Reverse Mutation Test	Salmonella typhimurium		Negative
OECD Test No. 476: In vitro Mammalian Cell Gene Mutation Test	in vitro		Negative read-across from supporting substance (structural analogue)
OECD Test No. 473: In vitro Mammalian Chromosome Aberration Test	in vitro		Negative read-across from supporting substance (structural analogue)

Carcinogenicity

There is no indication for any carcinogenic potential since all in vitro mutagenicity studies are negative.

Reproductive toxicity

The main component does not indicate any potential for developmental or reproductive toxicity. No additional data are available at present. There exists no other information which indicates that the reaction mass would be harmful to reproduction.

Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl-1,3-dioxane-5-methanol and propylidynetrimethanol (XXX-XX-X)				
Method	Species	Exposure route	Effective dose	Remarks
OECD Test No. 422: Combined Repeated Dose Toxicity Study with the Reproduction/Developmental Toxicity Screening Test	Rat	Oral	800	NOAEL No indication of reproductive toxicity according to OECD guideline 422 screening test. read-across from supporting substance (structural analogue)

STOT - single exposure

Target organ effects: None known

STOT - repeated exposure

Target organ effects: None known

Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl-1,3-dioxane-5-methanol and propylidynetrimethanol (XXX-XX-X)				
Method	Species	Exposure route	Effective dose	Remarks
OECD Test No. 408: Repeated Dose 90-Day Oral Toxicity Study in Rodents	Rat	Oral	100	mg/kg bw/d NOAEL read-across from supporting substance (structural analogue)

Aspiration hazard

No information available.

SECTION 12: Ecological information**12.1. Toxicity**

Low toxicity to aquatic organisms.

Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl-1,3-dioxane-5-methanol and propylidynetrimethanol (XXX-XX-X)					
Method	Species	Exposure route	Effective dose	Exposure time	Remarks
OECD Test No. 203: Fish, Acute Toxicity Test	Brachydanio rerio	Freshwater	1250	96h	mg/l LC50 (lethal concentration)
OECD Test No. 202: Daphnia sp. Acute Immobilization Test	Daphnia magna	Freshwater	1090	48h	mg/l EC50 (effective concentration)
OECD Test No. 201: Freshwater Algae and Cyanobacteria, Growth Inhibition Test	Pseudokirchneriella subcapitata	Freshwater	743	72h	mg/l LC50 (lethal concentration)
OECD Test No. 209: Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation)	Bacteria toxicity		>1000	3h	mg/l EC50 (effective concentration)

12.2. Persistence and degradability

Not readily biodegradable. The substance is inherently biodegradable and therefore has no potential to persist.

Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl-1,3-dioxane-5-methanol and propylidynetrimethanol (XXX-XX-X)			
Method	Value	Exposure time	Results:
OECD Test No. 301A: Ready Biodegradability: DOC Die-Away Test (TG 301 A)	92%	35d	According to OECD guidelines for testing chemicals, a test compound is regarded as easily biodegradable if the loss of DOC within 28 days is greater than 70%. The pass value has to be reached in a 10-day window within the 28-day period of the test. The 10-day window begins when the degree of biodegradation has reached 10% DOC and must end before day 28 of the test. This criterion was not reached for the test article and so the product cannot be regarded as readily biodegradable. After 35 days over 90% of the DOC had been removed from the test system which indicates that, though not readily biodegradable, the product does possess a degree of biodegradability and can be considered inherently

			biodegradable.
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12.3. Bioaccumulative potential

No bioaccumulation potential.

Chemical Name	Partition coefficient	Bioconcentration factor (BCF)
Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl-1,3-dioxane-5-methanol and propylidynetrimethanol	0.19	

12.4. Mobility in soil

The substance is not expected to adsorb to a high degree to suspended solids and sediment based upon the log Pow.

12.5. Results of PBT and vPvB assessment

This substance does not meet the criteria for classification as PBT or vPvB.

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products

This material and its container must be disposed of as hazardous waste. Incinerate at a licensed installation.

Contaminated packaging

Contaminated packaging materials must be disposed of in the same manner as the product. Thoroughly emptied and clean packaging may be recycled. Methods for cleaning up: Recommended use: Water (with cleaning agent).

Waste codes / waste designations according to EWC / AVV

Waste codes should be assigned by the user based on the application for which the product was used. Recommended Use: EWC 16 03 05*.

SECTION 14: Transport information

ADR Road transport

14.1 UN number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	None

RID Rail transport

14.1 UN number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	None

IMDG Sea transport

14.1 UN number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not regulated
14.5 Marine pollutant	Not applicable
14.6 Special precautions for user	None
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	No information available

IATA Air transport

	Not regulated
14.1 UN number	Not regulated
14.2 UN proper shipping name	Not regulated

14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	None

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

International Regulations

Not applicable.

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

National regulations

Germany

Water hazard class (WGK)

slightly hazardous to water (WGK 1)

15.2. Chemical safety assessment

A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of H-Statements referred to under section 3

H319 - Causes serious eye irritation

Issue Date	02-Feb-2017
Revision Date	01-Feb-2017
Revision Note	SDS sections updated: 3

This safety data sheet complies with the requirements of: Regulation (EC) No. 1907/2006, COMMISSION REGULATION (EU) No. 830/2015 of 20 May 2015.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name	Polyol TD
Chemical Name	Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl -1,3-dioxane-5-methanol and propylidynetrimethanol
CAS No	n.a.
EC No	904-153-2
REACH registration number	01-2119488034-38-0000
Pure substance/mixture	Substance

Exposure scenario

Section 1 - Title

Title	ES1 - Industrial Manufacture of substances.
Version	1
Product Name	Polyol TD
Revision Date	01-Feb-2017
Sector(s) of use	SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) ERC1 - Manufacture of substances

Remarks
Not relevant since not classified as dangerous for the environment.

Waste management
Hazardous waste incineration. Onsite wastewater treatment required. Acclimated biological treatment. No application of sewage sludge to soil.

Section 2.2 - Control of worker exposure

Control of worker exposure

Title	Contributing Scenario [CS] PROC1, PROC2
Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	100%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Organisational measures to prevent/limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Title	Contributing Scenario [CS] PROC3, PROC15
Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation) PROC15 - Use as laboratory reagent
Covers concentrations up to	100%
Exposure duration	Avoid carrying out operation for more than

	8h
Use frequency	220 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95%
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Title	Contributing Scenario [CS] PROC4, PROC8a, PROC8b, PROC9
Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Covers concentrations up to	100%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95% Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Section 3 - Exposure estimation

Environmental exposure Not relevant since not classified as dangerous for the environment.

Environmental release category(ies) ERC1 - Manufacture of substances

Control of worker exposure

Calculation method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PROC1	Worker - dermal, long-term - systemic			0.0817
Contributing Scenario [CS] PROC1	Worker - inhalative, long-term - systemic			0.0042
Contributing Scenario [CS] PROC1	Worker - combined, long-term - systemic			0.0859
Contributing Scenario [CS] PROC2	Worker - dermal, long-term - systemic			0.3267
Contributing Scenario [CS] PROC2	Worker - inhalative, long-term - systemic			0.417
Contributing Scenario [CS] PROC2	Worker - combined, long-term - systemic			0.7437
Contributing Scenario [CS]	Worker - dermal,			0.0817

PROC3	long-term - systemic			
Contributing Scenario [CS] PROC3	Worker - inhalative, long-term - systemic			0.0626
Contributing Scenario [CS] PROC3	Worker - combined, long-term - systemic			0.1443
Contributing Scenario [CS] PROC4	Worker - dermal, long-term - systemic			0.16
Contributing Scenario [CS] PROC4	Worker - inhalative, long-term - systemic			0.1041
Contributing Scenario [CS] PROC4	Worker - combined, long-term - systemic			0.2641
Contributing Scenario [CS] PROC8a	Worker - dermal, long-term - systemic			0.033
Contributing Scenario [CS] PROC8a	Worker - inhalative, long-term - systemic			0.21
Contributing Scenario [CS] PROC8a	Worker - combined, long-term - systemic			0.5389
Contributing Scenario [CS] PROC8b	Worker - dermal, long-term - systemic			0.16
Contributing Scenario [CS] PROC8b	Worker - inhalative, long-term - systemic			0.1858
Contributing Scenario [CS] PROC8b	Worker - combined, long-term - systemic			0.2641
Contributing Scenario [CS] PROC9	Worker - dermal, long-term - systemic			0.16
Contributing Scenario [CS] PROC9	Worker - inhalative, long-term - systemic			0.1041
Contributing Scenario [CS] PROC9	Worker - combined, long-term - systemic			0.2641
Contributing Scenario [CS] PROC15	Worker - dermal, long-term - systemic			0.0817
Contributing Scenario [CS] PROC15	Worker - inhalative, long-term - systemic			0.1041
Contributing Scenario [CS] PROC15	Worker - combined, long-term - systemic			0.1858

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the applicable exposure limits (given in section 8 of the SDS) when the operational conditions/risk management measures given in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name	Polyol TD
Chemical Name	Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl -1,3-dioxane-5-methanol and propylidynetrimethanol
CAS No	n.a.
EC No	904-153-2
REACH registration number	01-2119488034-38-0000
Pure substance/mixture	Substance

Exposure scenario

Section 1 - Title

Title	ES2 - Industrial manufacturing of polymers.
Version	1
Product Name	Polyol TD
Revision Date	01-Feb-2017
Sector(s) of use	SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies)	ERC5 - Industrial use resulting in inclusion into or onto a matrix ERC6c - Industrial use of monomers for manufacture of thermoplastics ERC6d - Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers
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Remarks

Not relevant since not classified as dangerous for the environment.

Waste management

Hazardous waste incineration. Onsite wastewater treatment required. Acclimated biological treatment. No application of sewage sludge to soil.

Section 2.2 - Control of worker exposure

Control of worker exposure

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Use frequency	220 days per year
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Title	Contributing Scenario [CS] PROC3, PROC15

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation) PROC15 - Use as laboratory reagent
Covers concentrations up to	100%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95%
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Title	Contributing Scenario [CS] PROC4, PROC5, PROC8a, PROC8b, PROC9
Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact) PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Covers concentrations up to	100%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95% Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Section 3 - Exposure estimation

Environmental exposure Not relevant since not classified as dangerous for the environment.

Environmental release category(ies) ERC5 - Industrial use resulting in inclusion into or onto a matrix
ERC6c - Industrial use of monomers for manufacture of thermoplastics
ERC6d - Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers

Control of worker exposure

Calculation method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PROC1	Worker - dermal, long-term - systemic			0.0817
Contributing Scenario [CS]	Worker - inhalative,			0.0042

PROC1	long-term - systemic			
Contributing Scenario [CS] PROC1	Worker - combined, long-term - systemic			0.0859
Contributing Scenario [CS] PROC2	Worker - dermal, long-term - systemic			0.3267
Contributing Scenario [CS] PROC2	Worker - inhalative, long-term - systemic			0.417
Contributing Scenario [CS] PROC2	Worker - combined, long-term - systemic			0.7437
Contributing Scenario [CS] PROC3	Worker - dermal, long-term - systemic			0.0817
Contributing Scenario [CS] PROC3	Worker - inhalative, long-term - systemic			0.0626
Contributing Scenario [CS] PROC3	Worker - combined, long-term - systemic			0.1443
Contributing Scenario [CS] PROC4	Worker - dermal, long-term - systemic			0.16
Contributing Scenario [CS] PROC4	Worker - inhalative, long-term - systemic			0.1041
Contributing Scenario [CS] PROC4	Worker - combined, long-term - systemic			0.2641
Contributing Scenario [CS] PROC5	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC5	Worker - inhalative, long-term - systemic			0.1041
Contributing Scenario [CS] PROC5	Worker - combined, long-term - systemic			0.4341
Contributing Scenario [CS] PROC8a	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC8a	Worker - inhalative, long-term - systemic			0.2089
Contributing Scenario [CS] PROC8a	Worker - combined, long-term - systemic			0.5389
Contributing Scenario [CS] PROC8b	Worker - dermal, long-term - systemic			0.16
Contributing Scenario [CS] PROC8b	Worker - inhalative, long-term - systemic			0.1041
Contributing Scenario [CS] PROC8b	Worker - combined, long-term - systemic			0.2641
Contributing Scenario [CS] PROC9	Worker - dermal, long-term - systemic			0.16
Contributing Scenario [CS] PROC9	Worker - inhalative, long-term - systemic			0.1041
Contributing Scenario [CS] PROC9	Worker - combined, long-term - systemic			0.2641
Contributing Scenario [CS] PROC15	Worker - dermal, long-term - systemic			0.0817
Contributing Scenario [CS] PROC15	Worker - inhalative, long-term - systemic			0.1041
Contributing Scenario [CS] PROC15	Worker - combined, long-term - systemic			0.1858

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the applicable exposure limits (given in section 8 of the SDS) when the operational conditions/risk management measures given in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name	Polyol TD
Chemical Name	Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl -1,3-dioxane-5-methanol and propylidynetrimethanol
CAS No	n.a.
EC No	904-153-2
REACH registration number	01-2119488034-38-0000
Pure substance/mixture	Substance

Exposure scenario

Section 1 - Title

Title	ES3 - Industrial manufacturing of polyurethane foams, of elastomers and other solid polyurethane materials.
Version	1
Product Name	Polyol TD
Revision Date	01-Feb-2017
Sector(s) of use	SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies)	ERC2 - Formulation of preparations (mixtures) ERC3 - Formulation in materials ERC6b - Industrial use of reactive processing aids ERC6c - Industrial use of monomers for manufacture of thermoplastics
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Remarks
Not relevant since not classified as dangerous for the environment.

Waste management
Hazardous waste incineration. Onsite wastewater treatment required. Acclimated biological treatment. No application of sewage sludge to soil.

Section 2.2 - Control of worker exposure

Control of worker exposure

Title	Contributing Scenario [CS] PROC1, PROC2
Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	100%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Organisational measures to prevent/limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Title	Contributing Scenario [CS]

	PROC3, PROC14, PROC15
Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation) PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising PROC15 - Use as laboratory reagent
Covers concentrations up to	100%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95%
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Title	Contributing Scenario [CS] PROC4, PROC5, PROC8a, PROC8b, PROC13
Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact) PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC13 - Treatment of articles by dipping and pouring
Covers concentrations up to	100%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training Wear a respirator providing a minimum efficiency of 95%
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Title	Contributing Scenario [CS] PROC7
Process category(ies)	PROC7 - Industrial spraying
Covers concentrations up to	100%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Technical conditions and measures to control dispersion from source towards the worker	Use with local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95% Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Section 3 - Exposure estimation

Environmental exposure Not relevant since not classified as dangerous for the environment.

Environmental release category(ies) ERC2 - Formulation of preparations (mixtures)
 ERC3 - Formulation in materials
 ERC6b - Industrial use of reactive processing aids
 ERC6c - Industrial use of monomers for manufacture of thermoplastics

Control of worker exposure

Calculation method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PROC1	Worker - dermal, long-term - systemic			0.0817
Contributing Scenario [CS] PROC1	Worker - inhalative, long-term - systemic			0.0042
Contributing Scenario [CS] PROC1	Worker - combined, long-term - systemic			0.0859
Contributing Scenario [CS] PROC2	Worker - dermal, long-term - systemic			0.3267
Contributing Scenario [CS] PROC2	Worker - inhalative, long-term - systemic			0.4172
Contributing Scenario [CS] PROC2	Worker - combined, long-term - systemic			0.7439
Contributing Scenario [CS] PROC3	Worker - dermal, long-term - systemic			0.0817
Contributing Scenario [CS] PROC3	Worker - inhalative, long-term - systemic			0.063
Contributing Scenario [CS] PROC3	Worker - combined, long-term - systemic			0.1447
Contributing Scenario [CS] PROC4	Worker - dermal, long-term - systemic			0.16
Contributing Scenario [CS] PROC4	Worker - inhalative, long-term - systemic			0.104
Contributing Scenario [CS] PROC4	Worker - combined, long-term - systemic			0.264
Contributing Scenario [CS] PROC5	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC5	Worker - inhalative, long-term - systemic			0.104
Contributing Scenario [CS] PROC5	Worker - combined, long-term - systemic			0.434
Contributing Scenario [CS] PROC7	Worker - dermal, long-term - systemic			0.51
Contributing Scenario [CS] PROC7	Worker - inhalative, long-term - systemic			0.125
Contributing Scenario [CS] PROC7	Worker - combined, long-term - systemic			0.635
Contributing Scenario [CS] PROC8a	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC8a	Worker - inhalative, long-term - systemic			0.2089
Contributing Scenario [CS] PROC8a	Worker - combined, long-term - systemic			0.5389
Contributing Scenario [CS] PROC8b	Worker - dermal, long-term - systemic			0.16
Contributing Scenario [CS] PROC8b	Worker - inhalative, long-term - systemic			0.1041
Contributing Scenario [CS] PROC8b	Worker - combined, long-term - systemic			0.2641

Contributing Scenario [CS] PROC13	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC13	Worker - inhalative, long-term - systemic			0.2089
Contributing Scenario [CS] PROC13	Worker - combined, long-term - systemic			0.5389
Contributing Scenario [CS] PROC14	Worker - dermal, long-term - systemic			0.8167
Contributing Scenario [CS] PROC14	Worker - inhalative, long-term - systemic			0.1041
Contributing Scenario [CS] PROC14	Worker - combined, long-term - systemic			0.9208
Contributing Scenario [CS] PROC15	Worker - inhalative, long-term - systemic			0.0817
Contributing Scenario [CS] PROC15	Worker - inhalative, long-term - local			0.1041
Contributing Scenario [CS] PROC15	Worker - combined, long-term - systemic			0.1858

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the applicable exposure limits (given in section 8 of the SDS) when the operational conditions/risk management measures given in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

<i>Product Name</i>	Polyol TD
<i>Chemical Name</i>	Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl -1,3-dioxane-5-methanol and propylidynetrimethanol
<i>CAS No</i>	n.a.
<i>EC No</i>	904-153-2
<i>REACH registration number</i>	01-2119488034-38-0000
<i>Pure substance/mixture</i>	Substance

Exposure scenario

Section 1 - Title

Title	ES4 - Industrial manufacturing of oligomers and Substances.
Version	1
Product Name	Polyol TD
Revision Date	01-Feb-2017
Sector(s) of use	SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies)	ERC1 - Manufacture of substances ERC5 - Industrial use resulting in inclusion into or onto a matrix ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates) ERC6c - Industrial use of monomers for manufacture of thermoplastics ERC6d - Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers
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Remarks

Not relevant since not classified as dangerous for the environment.

Waste management

Hazardous waste incineration. Onsite wastewater treatment required. Acclimated biological treatment. No application of sewage sludge to soil.

Section 2.2 - Control of worker exposure

Control of worker exposure

Title	Contributing Scenario [CS] PROC1, PROC2
Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	100%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Title	Contributing Scenario [CS] PROC3, PROC15
Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation) PROC15 - Use as laboratory reagent
Covers concentrations up to	100%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95%
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Title	Contributing Scenario [CS] PROC4, PROC5, PROC8a, PROC8b, PROC9
Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact) PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Covers concentrations up to	100%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training Wear a respirator providing a minimum efficiency of 95%
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Section 3 - Exposure estimation

Environmental exposure Not relevant since not classified as dangerous for the environment.

Environmental release category(ies) ERC1 - Manufacture of substances
ERC5 - Industrial use resulting in inclusion into or onto a matrix
ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)
ERC6c - Industrial use of monomers for manufacture of thermoplastics
ERC6d - Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers

Control of worker exposure

Calculation method The ECETOC TRA tool has been used to estimate workplace exposures unless

otherwise indicated				
Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PROC1	Worker - dermal, long-term - systemic			0.0817
Contributing Scenario [CS] PROC1	Worker - inhalative, long-term - systemic			0.0042
Contributing Scenario [CS] PROC1	Worker - combined, long-term - systemic			0.0859
Contributing Scenario [CS] PROC2	Worker - dermal, long-term - systemic			0.3267
Contributing Scenario [CS] PROC2	Worker - inhalative, long-term - systemic			0.417
Contributing Scenario [CS] PROC2	Worker - combined, long-term - systemic			0.7437
Contributing Scenario [CS] PROC3	Worker - dermal, long-term - systemic			0.0817
Contributing Scenario [CS] PROC3	Worker - inhalative, long-term - systemic			0.0626
Contributing Scenario [CS] PROC3	Worker - combined, long-term - systemic			0.1443
Contributing Scenario [CS] PROC4	Worker - dermal, long-term - systemic			0.16
Contributing Scenario [CS] PROC4	Worker - inhalative, long-term - systemic			0.1041
Contributing Scenario [CS] PROC4	Worker - combined, long-term - systemic			0.2641
Contributing Scenario [CS] PROC5	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC5	Worker - inhalative, long-term - systemic			0.1041
Contributing Scenario [CS] PROC5	Worker - combined, long-term - systemic			0.4341
Contributing Scenario [CS] PROC8a	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC8a	Worker - inhalative, long-term - systemic			0.2089
Contributing Scenario [CS] PROC8a	Worker - combined, long-term - systemic			0.5389
Contributing Scenario [CS] PROC8b	Worker - dermal, long-term - systemic			0.16
Contributing Scenario [CS] PROC8b	Worker - inhalative, long-term - systemic			0.1041
Contributing Scenario [CS] PROC8b	Worker - combined, long-term - systemic			0.2641
Contributing Scenario [CS] PROC9	Worker - dermal, long-term - systemic			0.16
Contributing Scenario [CS] PROC9	Worker - inhalative, long-term - systemic			0.1041
Contributing Scenario [CS] PROC9	Worker - combined, long-term - systemic			0.2641
Contributing Scenario [CS] PROC15	Worker - dermal, long-term - systemic			0.0817
Contributing Scenario [CS] PROC15	Worker - inhalative, long-term - systemic			0.1041
Contributing Scenario [CS] PROC15	Worker - combined, long-term - systemic			0.1858

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the applicable exposure limits (given in section 8 of the SDS) when the operational conditions/risk management measures given in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name	Polyol TD
Chemical Name	Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl -1,3-dioxane-5-methanol and propylidynetrimethanol
CAS No	n.a.
EC No	904-153-2
REACH registration number	01-2119488034-38-0000
Pure substance/mixture	Substance

Exposure scenario

Section 1 - Title

Title	ES5 - Formulation and Distribution and storage: Formulation and (re)packing of substances and mixtures.
Version	1
Product Name	Polyol TD
Revision Date	01-Feb-2017
Sector(s) of use	SU10 - Formulation [mixing] of preparations and/or re-packaging (excluding alloys)

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies)	ERC2 - Formulation of preparations (mixtures) ERC3 - Formulation in materials
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Remarks
Not relevant since not classified as dangerous for the environment.

Section 2.2 - Control of worker exposure

Control of worker exposure

Title	Contributing Scenario [CS] PROC1, PROC2, PROC15
Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure PROC2 - Use in closed, continuous process with occasional controlled exposure PROC15 - Use as laboratory reagent
Covers concentrations up to	100%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Title	Contributing Scenario [CS] PROC3, PROC14
Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation) PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising
Covers concentrations up to	100%

Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95%
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Title	Contributing Scenario [CS] PROC4, PROC5, PROC8a, PROC8b, PROC9
Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact) PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Covers concentrations up to	100%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training Wear a respirator providing a minimum efficiency of 95%
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Section 3 - Exposure estimation

Environmental exposure Not relevant since not classified as dangerous for the environment.

Environmental release category(ies) ERC2 - Formulation of preparations (mixtures)
ERC3 - Formulation in materials

Control of worker exposure

Calculation method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PROC1	Worker - dermal, long-term - systemic			0.0817
Contributing Scenario [CS] PROC1	Worker - inhalative, long-term - systemic			0.0042
Contributing Scenario [CS] PROC1	Worker - combined, long-term - systemic			0.0859
Contributing Scenario [CS] PROC2	Worker - dermal, long-term - systemic			0.3267
Contributing Scenario [CS]	Worker - inhalative,			0.417

PROC2	long-term - systemic			
Contributing Scenario [CS] PROC2	Worker - combined, long-term - systemic			0.7437
Contributing Scenario [CS] PROC3	Worker - dermal, long-term - systemic			0.0817
Contributing Scenario [CS] PROC3	Worker - inhalative, long-term - systemic			0.063
Contributing Scenario [CS] PROC3	Worker - combined, long-term - systemic			0.1447
Contributing Scenario [CS] PROC4	Worker - dermal, long-term - systemic			0.16
Contributing Scenario [CS] PROC4	Worker - inhalative, long-term - systemic			0.104
Contributing Scenario [CS] PROC4	Worker - combined, long-term - systemic			0.264
Contributing Scenario [CS] PROC5	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC5	Worker - inhalative, long-term - systemic			0.104
Contributing Scenario [CS] PROC5	Worker - combined, long-term - systemic			0.434
Contributing Scenario [CS] PROC8a	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC8a	Worker - inhalative, long-term - systemic			0.2089
Contributing Scenario [CS] PROC8a	Worker - combined, long-term - systemic			0.5389
Contributing Scenario [CS] PROC8b	Worker - dermal, long-term - systemic			0.16
Contributing Scenario [CS] PROC8b	Worker - inhalative, long-term - systemic			0.1041
Contributing Scenario [CS] PROC8b	Worker - combined, long-term - systemic			0.2641
Contributing Scenario [CS] PROC9	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC9	Worker - inhalative, long-term - systemic			0.1041
Contributing Scenario [CS] PROC9	Worker - combined, long-term - systemic			0.4341
Contributing Scenario [CS] PROC14	Worker - dermal, long-term - systemic			0.0817
Contributing Scenario [CS] PROC14	Worker - inhalative, long-term - systemic			0.1041
Contributing Scenario [CS] PROC14	Worker - combined, long-term - systemic			0.1858
Contributing Scenario [CS] PROC15	Worker - inhalative, long-term - systemic			0.0817
Contributing Scenario [CS] PROC15	Worker - inhalative, long-term - local			0.0042
Contributing Scenario [CS] PROC15	Worker - combined, long-term - systemic			0.0859

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the applicable exposure limits (given in section 8 of the SDS) when the operational conditions/risk management measures given in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name	Polyol TD
Chemical Name	Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl -1,3-dioxane-5-methanol and propylidynetrimethanol
CAS No	n.a.
EC No	904-153-2
REACH registration number	01-2119488034-38-0000
Pure substance/mixture	Substance

Exposure scenario

Section 1 - Title

Title	ES6 - Laboratory chemicals.
Version	1
Product Name	Polyol TD
Revision Date	01-Feb-2017
Sector(s) of use	SU22 - Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Product category(ies)	PC21 - Laboratory chemicals

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Remarks

Not relevant since not classified as dangerous for the environment.

Section 2.2 - Control of worker exposure

Control of worker exposure

Title	Contributing Scenario [CS] PROC15
Process category(ies)	PROC15 - Use as laboratory reagent
Covers concentrations up to	100%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Organisational measures to prevent/limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Title	Contributing Scenario [CS] PROC8a, PROC8b, PROC9
Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Covers concentrations up to	100%

Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training Wear a respirator providing a minimum efficiency of 95%
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Section 3 - Exposure estimation

Environmental exposure Not relevant since not classified as dangerous for the environment.

Control of worker exposure

Calculation method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PROC8a	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC8a	Worker - inhalative, long-term - systemic			0.2089
Contributing Scenario [CS] PROC8a	Worker - combined, long-term - systemic			0.5389
Contributing Scenario [CS] PROC8b	Worker - dermal, long-term - systemic			0.16
Contributing Scenario [CS] PROC8b	Worker - inhalative, long-term - systemic			0.1041
Contributing Scenario [CS] PROC8b	Worker - combined, long-term - systemic			0.2641
Contributing Scenario [CS] PROC9	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC9	Worker - inhalative, long-term - systemic			0.1041
Contributing Scenario [CS] PROC9	Worker - combined, long-term - systemic			0.4341
Contributing Scenario [CS] PROC15	Worker - inhalative, long-term - systemic			0.0817
Contributing Scenario [CS] PROC15	Worker - inhalative, long-term - local			0.0042
Contributing Scenario [CS] PROC15	Worker - combined, long-term - systemic			0.0859

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the applicable exposure limits (given in section 8 of the SDS) when the operational conditions/risk management measures given in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

<i>Product Name</i>	Polyol TD
<i>Chemical Name</i>	Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl -1,3-dioxane-5-methanol and propylidynetrimethanol
<i>CAS No</i>	n.a.
<i>EC No</i>	904-153-2
<i>REACH registration number</i>	01-2119488034-38-0000
<i>Pure substance/mixture</i>	Substance

Exposure scenario

Section 1 - Title

Title	ES7A - Industrial Use: Lubricant.
Version	1
Product Name	Polyol TD
Revision Date	01-Feb-2017
Sector(s) of use	SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites
Article categories [AC]	AC1a - Passenger cars and motor cycles AC1b - Other vehicles: Railway, aircraft, vessels, boats, trucks, and associated transport equipment AC2 - Machinery, mechanical appliances, electrical/electronic articles

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies)	ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles ERC7 - Industrial use of substances in closed systems
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Remarks
Not relevant since not classified as dangerous for the environment.

Waste management
Hazardous waste incineration. Onsite wastewater treatment required. Acclimated biological treatment. No application of sewage sludge to soil.

Section 2.2 - Control of worker exposure

Control of worker exposure

Title	Contributing Scenario [CS] PROC1, PROC2, PROC3 Respiratory protection
Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure PROC2 - Use in closed, continuous process with occasional controlled exposure PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	100%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95%
Organisational measures to prevent	Ensure operatives are trained to minimise exposures

/limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Title	Contributing Scenario [CS] PROC1, PROC2, PROC3 Local exhaust ventilation
Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure PROC2 - Use in closed, continuous process with occasional controlled exposure PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	100%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Technical conditions and measures to control dispersion from source towards the worker	Use with local exhaust ventilation
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Title	Contributing Scenario [CS] PROC5, PROC8a, PROC8b, PROC18 Respiratory protection
Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact) PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC18 - Greasing at high energy conditions
Covers concentrations up to	100%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training Wear a respirator providing a minimum efficiency of 95%
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Title	Contributing Scenario [CS] PROC5, PROC8a, PROC8b, PROC17, PROC18 Local exhaust ventilation
Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact) PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC17 - Lubrication at high energy conditions and in partly open process PROC18 - Greasing at high energy conditions
Covers concentrations up to	100%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Technical conditions and measures to control dispersion from source towards the worker	Use with local exhaust ventilation
Conditions and measures related to	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee

personal protection, hygiene and health evaluation	training
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Section 3 - Exposure estimation

Environmental exposure Not relevant since not classified as dangerous for the environment.

Environmental release category(ies) ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles
ERC7 - Industrial use of substances in closed systems

Control of worker exposure

Calculation method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PROC1 Respiratory protection	Worker - dermal, long-term - systemic			0.0817
Contributing Scenario [CS] PROC1 Respiratory protection	Worker - inhalative, long-term - systemic			0.0002
Contributing Scenario [CS] PROC1 Respiratory protection	Worker - combined, long-term - systemic			0.0819
Contributing Scenario [CS] PROC1 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.00817
Contributing Scenario [CS] PROC1 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.004
Contributing Scenario [CS] PROC1 Local exhaust ventilation	Worker - combined, long-term - systemic			0.01217
Contributing Scenario [CS] PROC2 Respiratory protection	Worker - dermal, long-term - systemic			0.326
Contributing Scenario [CS] PROC2 Respiratory protection	Worker - inhalative, long-term - systemic			0.02
Contributing Scenario [CS] PROC2 Respiratory protection	Worker - combined, long-term - systemic			0.346
Contributing Scenario [CS] PROC2 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.0326
Contributing Scenario [CS] PROC2 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.04
Contributing Scenario [CS] PROC2 Local exhaust ventilation	Worker - combined, long-term - systemic			0.0726
Contributing Scenario [CS] PROC3 Respiratory protection	Worker - dermal, long-term - systemic			0.0817

Contributing Scenario [CS] PROC3 Respiratory protection	Worker - inhalative, long-term - systemic			0.0626
Contributing Scenario [CS] PROC3 Respiratory protection	Worker - combined, long-term - systemic			0.1443
Contributing Scenario [CS] PROC3 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.00817
Contributing Scenario [CS] PROC3 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.125
Contributing Scenario [CS] PROC3 Local exhaust ventilation	Worker - combined, long-term - systemic			0.13317
Contributing Scenario [CS] PROC5 Respiratory protection	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC5 Respiratory protection	Worker - inhalative, long-term - systemic			0.104
Contributing Scenario [CS] PROC5 Respiratory protection	Worker - combined, long-term - systemic			0.434
Contributing Scenario [CS] PROC5 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.01633
Contributing Scenario [CS] PROC5 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.2089
Contributing Scenario [CS] PROC5 Local exhaust ventilation	Worker - combined, long-term - systemic			0.2252
Contributing Scenario [CS] PROC8a Respiratory protection	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC8a Respiratory protection	Worker - inhalative, long-term - systemic			0.2089
Contributing Scenario [CS] PROC8a Respiratory protection	Worker - combined, long-term - systemic			0.539
Contributing Scenario [CS] PROC8a Local exhaust ventilation	Worker - dermal, long-term - systemic			0.0326
Contributing Scenario [CS] PROC8a Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.417
Contributing Scenario [CS] PROC8a Local exhaust ventilation	Worker - combined, long-term - systemic			0.4496
Contributing Scenario [CS] PROC8b Respiratory protection	Worker - dermal, long-term - systemic			0.16
Contributing Scenario [CS] PROC8b Respiratory protection	Worker - inhalative, long-term - systemic			0.1041
Contributing Scenario [CS] PROC8b Respiratory protection	Worker - combined, long-term - systemic			0.264
Contributing Scenario [CS] PROC8b Local exhaust ventilation	Worker - dermal, long-term - systemic			0.1633
Contributing Scenario [CS] PROC8b Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.0626
Contributing Scenario [CS]	Worker - combined,			0.2259

PROC8b Local exhaust ventilation	long-term - systemic			
Contributing Scenario [CS] PROC17 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.32619
Contributing Scenario [CS] PROC17 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.4171
Contributing Scenario [CS] PROC17 Local exhaust ventilation	Worker - combined, long-term - systemic			0.74329
Contributing Scenario [CS] PROC18 Respiratory protection	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC18 Respiratory protection	Worker - inhalative, long-term - systemic			0.4171
Contributing Scenario [CS] PROC18 Respiratory protection	Worker - combined, long-term - systemic			0.747
Contributing Scenario [CS] PROC18 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.1633
Contributing Scenario [CS] PROC18 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.4171
Contributing Scenario [CS] PROC18 Local exhaust ventilation	Worker - combined, long-term - systemic			0.5803

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the applicable exposure limits (given in section 8 of the SDS) when the operational conditions/risk management measures given in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name	Polyol TD
Chemical Name	Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl -1,3-dioxane-5-methanol and propylidynetrimethanol
CAS No	n.a.
EC No	904-153-2
REACH registration number	01-2119488034-38-0000
Pure substance/mixture	Substance

Exposure scenario

Section 1 - Title

Title	ES7B - Professional Use: Lubricant.
Version	1
Product Name	Polyol TD
Revision Date	01-Feb-2017
Sector(s) of use	SU22 - Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Product category(ies)	PC24 - Lubricants, greases, release products
Article categories [AC]	AC1a - Passenger cars and motor cycles AC1b - Other vehicles: Railway, aircraft, vessels, boats, trucks, and associated transport equipment AC2 - Machinery, mechanical appliances, electrical/electronic articles

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies)	ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles
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Remarks
Not relevant since not classified as dangerous for the environment.

Section 2.2 - Control of worker exposure

Control of worker exposure

Title	Contributing Scenario [CS] PROC1, PROC2, PROC3 Respiratory protection
Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure PROC2 - Use in closed, continuous process with occasional controlled exposure PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	5%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95%
Organisational measures to prevent/limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented

Indoor/Outdoor use	Indoor
Title	Contributing Scenario [CS] PROC1, PROC2, PROC3 Local exhaust ventilation
Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure PROC2 - Use in closed, continuous process with occasional controlled exposure PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	5%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Technical conditions and measures to control dispersion from source towards the worker	Use with local exhaust ventilation
Organisational measures to prevent/limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Title	Contributing Scenario [CS] PROC5, PROC8a, PROC8b, PROC17, PROC18 Respiratory protection
Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact) PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC17 - Lubrication at high energy conditions and in partly open process PROC18 - Greasing at high energy conditions
Covers concentrations up to	5%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training Wear a respirator providing a minimum efficiency of 95%
Organisational measures to prevent/limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Title	Contributing Scenario [CS] PROC5, PROC8a, PROC8b, PROC17, PROC18 Local exhaust ventilation
Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact) PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC17 - Lubrication at high energy conditions and in partly open process PROC18 - Greasing at high energy conditions
Covers concentrations up to	5%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Technical conditions and measures to control dispersion from source towards the worker	Use with local exhaust ventilation
Conditions and measures related to personal protection, hygiene and	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training

health evaluation	
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Section 3 - Exposure estimation

Environmental exposure Not relevant since not classified as dangerous for the environment.

Environmental release category(ies) ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles

Control of worker exposure

Calculation method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PROC1 Respiratory protection	Worker - dermal, long-term - systemic			0.0817
Contributing Scenario [CS] PROC1 Respiratory protection	Worker - inhalative, long-term - systemic			0.00004
Contributing Scenario [CS] PROC1 Respiratory protection	Worker - combined, long-term - systemic			0.08174
Contributing Scenario [CS] PROC1 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.00817
Contributing Scenario [CS] PROC1 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.0008
Contributing Scenario [CS] PROC1 Local exhaust ventilation	Worker - combined, long-term - systemic			0.00897
Contributing Scenario [CS] PROC2 Respiratory protection	Worker - dermal, long-term - systemic			0.326
Contributing Scenario [CS] PROC2 Respiratory protection	Worker - inhalative, long-term - systemic			0.0209
Contributing Scenario [CS] PROC2 Respiratory protection	Worker - combined, long-term - systemic			0.3469
Contributing Scenario [CS] PROC2 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.0326
Contributing Scenario [CS] PROC2 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.084
Contributing Scenario [CS] PROC2 Local exhaust ventilation	Worker - combined, long-term - systemic			0.1166
Contributing Scenario [CS] PROC3 Respiratory protection	Worker - dermal, long-term - systemic			0.0817
Contributing Scenario [CS] PROC3 Respiratory protection	Worker - inhalative, long-term - systemic			0.0125

protection				
Contributing Scenario [CS] PROC3 Respiratory protection	Worker - combined, long-term - systemic			0.0942
Contributing Scenario [CS] PROC3 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.00817
Contributing Scenario [CS] PROC3 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.050
Contributing Scenario [CS] PROC3 Local exhaust ventilation	Worker - combined, long-term - systemic			0.05817
Contributing Scenario [CS] PROC5 Respiratory protection	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC5 Respiratory protection	Worker - inhalative, long-term - systemic			0.04178
Contributing Scenario [CS] PROC5 Respiratory protection	Worker - combined, long-term - systemic			0.37178
Contributing Scenario [CS] PROC5 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.01633
Contributing Scenario [CS] PROC5 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.167
Contributing Scenario [CS] PROC5 Local exhaust ventilation	Worker - combined, long-term - systemic			0.18333
Contributing Scenario [CS] PROC8a Respiratory protection	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC8a Respiratory protection	Worker - inhalative, long-term - systemic			0.1041
Contributing Scenario [CS] PROC8a Respiratory protection	Worker - combined, long-term - systemic			0.4341
Contributing Scenario [CS] PROC8a Local exhaust ventilation	Worker - dermal, long-term - systemic			0.0326
Contributing Scenario [CS] PROC8a Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.417
Contributing Scenario [CS] PROC8a Local exhaust ventilation	Worker - combined, long-term - systemic			0.4496
Contributing Scenario [CS] PROC8b Respiratory protection	Worker - dermal, long-term - systemic			0.16
Contributing Scenario [CS] PROC8b Respiratory protection	Worker - inhalative, long-term - systemic			0.04178
Contributing Scenario [CS] PROC8b Respiratory protection	Worker - combined, long-term - systemic			0.20178
Contributing Scenario [CS] PROC8b Local exhaust ventilation	Worker - dermal, long-term - systemic			0.1633
Contributing Scenario [CS] PROC8b Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.0836
Contributing Scenario [CS] PROC8b Local exhaust ventilation	Worker - combined, long-term - systemic			0.2469

Contributing Scenario [CS] PROC17 Respiratory protection	Worker - dermal, long-term - systemic			0.65
Contributing Scenario [CS] PROC17 Respiratory protection	Worker - inhalative, long-term - systemic			0.2089
Contributing Scenario [CS] PROC17 Respiratory protection	Worker - combined, long-term - systemic			0.8589
Contributing Scenario [CS] PROC17 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.32619
Contributing Scenario [CS] PROC17 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.4171
Contributing Scenario [CS] PROC17 Local exhaust ventilation	Worker - combined, long-term - systemic			0.74329
Contributing Scenario [CS] PROC18 Respiratory protection	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC18 Respiratory protection	Worker - inhalative, long-term - systemic			0.2089
Contributing Scenario [CS] PROC18 Respiratory protection	Worker - combined, long-term - systemic			0.5389
Contributing Scenario [CS] PROC18 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.1633
Contributing Scenario [CS] PROC18 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.4171
Contributing Scenario [CS] PROC18 Local exhaust ventilation	Worker - combined, long-term - systemic			0.5804

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the applicable exposure limits (given in section 8 of the SDS) when the operational conditions/risk management measures given in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

<i>Product Name</i>	Polyol TD
<i>Chemical Name</i>	Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl -1,3-dioxane-5-methanol and propylidynetrimehanol
<i>CAS No</i>	n.a.
<i>EC No</i>	904-153-2
<i>REACH registration number</i>	01-2119488034-38-0000
<i>Pure substance/mixture</i>	Substance

Exposure scenario

Section 1 - Title

Title	ES7C - Consumer use: Lubricant.
Version	1
Product Name	Polyol TD
Revision Date	01-Feb-2017
Product category(ies)	PC24 - Lubricants, greases, release products
Article categories [AC]	AC1a - Passenger cars and motor cycles AC1b - Other vehicles: Railway, aircraft, vessels, boats, trucks, and associated transport equipment AC2 - Machinery, mechanical appliances, electrical/electronic articles

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies)	ERC8a - Wide dispersive indoor use of processing aids in open systems ERC8d - Wide dispersive outdoor use of processing aids in open systems ERC9b - Wide dispersive outdoor use of substances in closed systems
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Remarks
Not relevant since not classified as dangerous for the environment.

Section 2.2 - Control of consumer exposure

Control of consumer exposure	
Title	Contributing Scenario [CS] PC24
Product (sub) category(ies)	PC24 - Lubricants, greases, release products
Covers concentrations up to	5%
Amounts used	8.6 g
Exposure duration	4h
Use frequency	1/month

Section 3 - Exposure estimation

Environmental exposure	Not relevant since not classified as dangerous for the environment.
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Environmental release category(ies)

ERC8a - Wide dispersive indoor use of processing aids in open systems
 ERC8d - Wide dispersive outdoor use of processing aids in open systems
 ERC9b - Wide dispersive outdoor use of substances in closed systems

Control of consumer exposure

Calculation method

The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated

Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PC24	Consumer - dermal, long-term - systemic			0.094

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the applicable exposure limits (given in section 8 of the SDS) when the operational conditions/risk management measures given in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name	Polyol TD
Chemical Name	Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl -1,3-dioxane-5-methanol and propylidynetrimethanol
CAS No	n.a.
EC No	904-153-2
REACH registration number	01-2119488034-38-0000
Pure substance/mixture	Substance

Exposure scenario

Section 1 - Title

Title	ES8A - Professional Use: Road and construction applications.
Version	1
Product Name	Polyol TD
Revision Date	01-Feb-2017
Sector(s) of use	SU22 - Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Product category(ies)	PC10 - Building and construction preparations not covered elsewhere
Article categories [AC]	AC12-1, AC12-2

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies)	ERC8a - Wide dispersive indoor use of processing aids in open systems ERC8d - Wide dispersive outdoor use of processing aids in open systems
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Remarks
Not relevant since not classified as dangerous for the environment.

Section 2.2 - Control of worker exposure

Control of worker exposure

Title	Contributing Scenario [CS] PROC1, PROC2, PROC3
Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure PROC2 - Use in closed, continuous process with occasional controlled exposure PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	5%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor Outdoor

Title	Contributing Scenario [CS]
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	PROC4, PROC8b
Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Covers concentrations up to	5%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training
Organisational measures to prevent/limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor Outdoor

Title	Contributing Scenario [CS] PROC5, PROC13
Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact) PROC13 - Treatment of articles by dipping and pouring
Covers concentrations up to	5%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training
Organisational measures to prevent/limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor

Title	Contributing Scenario [CS] PROC5, PROC8a, PROC13
Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact) PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC13 - Treatment of articles by dipping and pouring
Covers concentrations up to	5%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training Wear a respirator providing a minimum efficiency of 95%
Organisational measures to prevent/limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Title	Contributing Scenario [CS] PROC8a
Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Covers concentrations up to	5%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year

Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training Wear a respirator providing a minimum efficiency of 95
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor

Section 3 - Exposure estimation

Environmental exposure Not relevant since not classified as dangerous for the environment.

Environmental release category(ies) ERC8a - Wide dispersive indoor use of processing aids in open systems
ERC8d - Wide dispersive outdoor use of processing aids in open systems

Control of worker exposure

Calculation method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PROC1 Outdoor use	Worker - dermal, long-term - systemic			0.082
Contributing Scenario [CS] PROC1 Outdoor use	Worker - inhalative, long-term - systemic			0.0006
Contributing Scenario [CS] PROC1 Outdoor use	Worker - combined, long-term - systemic			0.0826
Contributing Scenario [CS] PROC1 Indoor use	Worker - dermal, long-term - systemic			0.0082
Contributing Scenario [CS] PROC1 Indoor use	Worker - inhalative, long-term - systemic			0.0008
Contributing Scenario [CS] PROC1 Indoor use	Worker - combined, long-term - systemic			0.0828
Contributing Scenario [CS] PROC2 Outdoor use	Worker - dermal, long-term - systemic			0.327
Contributing Scenario [CS] PROC2 Outdoor use	Worker - inhalative, long-term - systemic			0.29
Contributing Scenario [CS] PROC2 Outdoor use	Worker - combined, long-term - systemic			0.617
Contributing Scenario [CS] PROC2 Indoor use	Worker - dermal, long-term - systemic			0.327
Contributing Scenario [CS] PROC2 Indoor use	Worker - inhalative, long-term - systemic			0.42
Contributing Scenario [CS] PROC2 Indoor use	Worker - combined, long-term - systemic			0.747
Contributing Scenario [CS] PROC3 Outdoor use	Worker - dermal, long-term - systemic			0.082
Contributing Scenario [CS] PROC3 Outdoor use	Worker - inhalative, long-term - systemic			0.175
Contributing Scenario [CS] PROC3 Outdoor use	Worker - combined, long-term - systemic			0.257
Contributing Scenario [CS] PROC3 Indoor use	Worker - dermal, long-term - systemic			0.082
Contributing Scenario [CS] PROC3 Indoor use	Worker - inhalative, long-term - systemic			0.25
Contributing Scenario [CS] PROC3 Indoor use	Worker - combined, long-term - systemic			0.332

Contributing Scenario [CS] PROC4 Outdoor use	Worker - dermal, long-term - systemic			0.16
Contributing Scenario [CS] PROC4 Outdoor use	Worker - inhalative, long-term - systemic			0.584
Contributing Scenario [CS] PROC4 Outdoor use	Worker - combined, long-term - systemic			0.744
Contributing Scenario [CS] PROC4 Indoor use	Worker - dermal, long-term - systemic			0.16
Contributing Scenario [CS] PROC4 Indoor use	Worker - inhalative, long-term - systemic			0.834
Contributing Scenario [CS] PROC4 Indoor use	Worker - combined, long-term - systemic			0.994
Contributing Scenario [CS] PROC5 Outdoor use	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC5 Outdoor use	Worker - inhalative, long-term - systemic			0.584
Contributing Scenario [CS] PROC5 Outdoor use	Worker - combined, long-term - systemic			0.914
Contributing Scenario [CS] PROC5 Indoor use	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC5 Indoor use	Worker - inhalative, long-term - systemic			0.042
Contributing Scenario [CS] PROC5 Indoor use	Worker - combined, long-term - systemic			0.37
Contributing Scenario [CS] PROC8a Outdoor use	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC8a Outdoor use	Worker - inhalative, long-term - systemic			0.07
Contributing Scenario [CS] PROC8a Outdoor use	Worker - combined, long-term - systemic			0.4
Contributing Scenario [CS] PROC8a Indoor use	Worker - dermal, long-term - systemic			0.033
Contributing Scenario [CS] PROC8a Indoor use	Worker - inhalative, long-term - systemic			0.11
Contributing Scenario [CS] PROC8a Indoor use	Worker - combined, long-term - systemic			0.44
Contributing Scenario [CS] PROC8b Outdoor use	Worker - dermal, long-term - systemic			0.16
Contributing Scenario [CS] PROC8b Outdoor use	Worker - inhalative, long-term - systemic			0.584
Contributing Scenario [CS] PROC8b Outdoor use	Worker - combined, long-term - systemic			0.744
Contributing Scenario [CS] PROC8b Indoor use	Worker - dermal, long-term - systemic			0.16
Contributing Scenario [CS] PROC8b Indoor use	Worker - inhalative, long-term - systemic			0.834
Contributing Scenario [CS] PROC8b Indoor use	Worker - combined, long-term - systemic			0.994
Contributing Scenario [CS] PROC13 Outdoor use	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC13 Outdoor use	Worker - inhalative, long-term - systemic			0.584
Contributing Scenario [CS] PROC13 Outdoor use	Worker - combined, long-term - systemic			0.914
Contributing Scenario [CS] PROC13 Indoor use	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC13 Indoor use	Worker - inhalative, long-term - systemic			0.042
Contributing Scenario [CS] PROC13 Indoor use	Worker - combined, long-term - systemic			0.37

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the applicable exposure limits (given in section 8 of the SDS) when the operational conditions/risk management measures given in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name	Polyol TD
Chemical Name	Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl -1,3-dioxane-5-methanol and propylidynetrimethanol
CAS No	n.a.
EC No	904-153-2
REACH registration number	01-2119488034-38-0000
Pure substance/mixture	Substance

Exposure scenario

Section 1 - Title

Title	ES8B - Road and construction applications: for service life, contained in articles.
Version	1
Product Name	Polyol TD
Revision Date	01-Feb-2017
Product category(ies)	PC10 - Building and construction preparations not covered elsewhere
Article categories [AC]	AC12-1, AC12-2

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies)	ERC10a - Wide dispersive outdoor use of long-life articles and materials with low release ERC11a - Wide dispersive indoor use of long-life articles and materials with low release
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Remarks
Not relevant since not classified as dangerous for the environment.

Section 2.2 - Control of consumer exposure

Control of consumer exposure	
Title	Contributing Scenario [CS] PC10
Product (sub) category(ies)	PC10 - Building and construction preparations not covered elsewhere
Covers concentrations up to	5%
Amounts used	2 g
Exposure duration	120 min
Use frequency	3/year

Section 3 - Exposure estimation

Environmental exposure	Not relevant since not classified as dangerous for the environment.
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Environmental release category(ies)	ERC10a - Wide dispersive outdoor use of long-life articles and materials with low release ERC11a - Wide dispersive indoor use of long-life articles and
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materials with low release

Control of consumer exposure

Calculation method The Consexpo model has been used to estimate consumer exposures unless otherwise indicated

Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PC10	Consumer - dermal, long-term - systemic			0.00272

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the applicable exposure limits (given in section 8 of the SDS) when the operational conditions/risk management measures given in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

<i>Product Name</i>	Polyol TD
<i>Chemical Name</i>	Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl -1,3-dioxane-5-methanol and propylidynetrimethanol
<i>CAS No</i>	n.a.
<i>EC No</i>	904-153-2
<i>REACH registration number</i>	01-2119488034-38-0000
<i>Pure substance/mixture</i>	Substance

Exposure scenario

Section 1 - Title

Title	ES9A - Industrial Use: Hydraulic fluids.
Version	1
Product Name	Polyol TD
Revision Date	01-Feb-2017
Sector(s) of use	SU17 - General manufacturing
Product category(ies)	PC17 - Hydraulic fluids

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) ERC7 - Industrial use of substances in closed systems

Remarks
Not relevant since not classified as dangerous for the environment.

Waste management
Hazardous waste incineration. Onsite wastewater treatment required. Acclimated biological treatment. No application of sewage sludge to soil.

Section 2.2 - Control of worker exposure

Control of worker exposure

Title	Contributing Scenario [CS] PROC1, PROC2, PROC3 Respiratory protection
Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure PROC2 - Use in closed, continuous process with occasional controlled exposure PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	100%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95%
Organisational measures to prevent/limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Title	Contributing Scenario [CS] PROC1, PROC2, PROC3 Local exhaust ventilation
Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure PROC2 - Use in closed, continuous process with occasional controlled exposure PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	100%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Technical conditions and measures to control dispersion from source towards the worker	Use with local exhaust ventilation
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Title	Contributing Scenario [CS] PROC5, PROC8a, PROC8b Respiratory protection
Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact) PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Covers concentrations up to	100%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training Wear a respirator providing a minimum efficiency of 95%
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Title	Contributing Scenario [CS] PROC5, PROC8a, PROC8b Local exhaust ventilation
Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact) PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Covers concentrations up to	100%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Technical conditions and measures to control dispersion from source towards the worker	Use with local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Section 3 - Exposure estimation

Environmental exposure Not relevant since not classified as dangerous for the environment.

Environmental release category(ies) ERC7 - Industrial use of substances in closed systems

Control of worker exposure

Calculation method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PROC1 Respiratory protection	Worker - dermal, long-term - systemic			0.0817
Contributing Scenario [CS] PROC1 Respiratory protection	Worker - inhalative, long-term - systemic			0.0002
Contributing Scenario [CS] PROC1 Respiratory protection	Worker - combined, long-term - systemic			0.0819
Contributing Scenario [CS] PROC1 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.00817
Contributing Scenario [CS] PROC1 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.004
Contributing Scenario [CS] PROC1 Local exhaust ventilation	Worker - combined, long-term - systemic			0.01217
Contributing Scenario [CS] PROC2 Respiratory protection	Worker - dermal, long-term - systemic			0.326
Contributing Scenario [CS] PROC2 Respiratory protection	Worker - inhalative, long-term - systemic			0.02
Contributing Scenario [CS] PROC2 Respiratory protection	Worker - combined, long-term - systemic			0.346
Contributing Scenario [CS] PROC2 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.0326
Contributing Scenario [CS] PROC2 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.04
Contributing Scenario [CS] PROC2 Local exhaust ventilation	Worker - combined, long-term - systemic			0.0726
Contributing Scenario [CS] PROC3 Respiratory protection	Worker - dermal, long-term - systemic			0.0817
Contributing Scenario [CS] PROC3 Respiratory protection	Worker - inhalative, long-term - systemic			0.0626
Contributing Scenario [CS] PROC3 Respiratory protection	Worker - combined, long-term - systemic			0.1443
Contributing Scenario [CS] PROC3 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.00817

Contributing Scenario [CS] PROC3 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.125
Contributing Scenario [CS] PROC3 Local exhaust ventilation	Worker - combined, long-term - systemic			0.13317
Contributing Scenario [CS] PROC5 Respiratory protection	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC5 Respiratory protection	Worker - inhalative, long-term - systemic			0.104
Contributing Scenario [CS] PROC5 Respiratory protection	Worker - combined, long-term - systemic			0.434
Contributing Scenario [CS] PROC5 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.01633
Contributing Scenario [CS] PROC5 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.2089
Contributing Scenario [CS] PROC5 Local exhaust ventilation	Worker - combined, long-term - systemic			0.2252
Contributing Scenario [CS] PROC8a Respiratory protection	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC8a Respiratory protection	Worker - inhalative, long-term - systemic			0.2089
Contributing Scenario [CS] PROC8a Respiratory protection	Worker - combined, long-term - systemic			0.539
Contributing Scenario [CS] PROC8a Local exhaust ventilation	Worker - dermal, long-term - systemic			0.0326
Contributing Scenario [CS] PROC8a Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.417
Contributing Scenario [CS] PROC8a Local exhaust ventilation	Worker - combined, long-term - systemic			0.4496
Contributing Scenario [CS] PROC8b Respiratory protection	Worker - dermal, long-term - systemic			0.16
Contributing Scenario [CS] PROC8b Respiratory protection	Worker - inhalative, long-term - systemic			0.1041
Contributing Scenario [CS] PROC8b Respiratory protection	Worker - combined, long-term - systemic			0.264
Contributing Scenario [CS] PROC8b Local exhaust ventilation	Worker - dermal, long-term - systemic			0.1633
Contributing Scenario [CS] PROC8b Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.0626
Contributing Scenario [CS] PROC8b Local exhaust ventilation	Worker - combined, long-term - systemic			0.2259

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the applicable exposure limits (given in section 8 of the SDS) when the

operational conditions/risk management measures given in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name	Polyol TD
Chemical Name	Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl -1,3-dioxane-5-methanol and propylidynetrimehanol
CAS No	n.a.
EC No	904-153-2
REACH registration number	01-2119488034-38-0000
Pure substance/mixture	Substance

Exposure scenario

Section 1 - Title

Title	ES9B - Professional Use: Hydraulic fluids.
Version	1
Product Name	Polyol TD
Revision Date	01-Feb-2017
Sector(s) of use	SU22 - Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Product category(ies)	PC17 - Hydraulic fluids
Article categories [AC]	AC1a - Passenger cars and motor cycles AC1b - Other vehicles: Railway, aircraft, vessels, boats, trucks, and associated transport equipment

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies)	ERC9b - Wide dispersive outdoor use of substances in closed systems
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Remarks
Not relevant since not classified as dangerous for the environment.

Section 2.2 - Control of worker exposure

Control of worker exposure

Title	Contributing Scenario [CS] PROC1, PROC2, PROC3, PROC20
Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure PROC2 - Use in closed, continuous process with occasional controlled exposure PROC3 - Use in closed batch process (synthesis or formulation) PROC20 - Heat and pressure transfer fluids in dispersive, professional use but closed systems
Covers concentrations up to	5%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Title	Contributing Scenario [CS]
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	PROC5, PROC8a
Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact) PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Covers concentrations up to	5%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training Wear a respirator providing a minimum efficiency of 95%
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Title	Contributing Scenario [CS] PROC8b
Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Covers concentrations up to	5%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Section 3 - Exposure estimation

Environmental exposure Not relevant since not classified as dangerous for the environment.

Environmental release category(ies) ERC9b - Wide dispersive outdoor use of substances in closed systems

Control of worker exposure

Calculation method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PROC1	Worker - dermal, long-term - systemic			0.082
Contributing Scenario [CS] PROC1	Worker - inhalative, long-term - systemic			0.0008
Contributing Scenario [CS] PROC1	Worker - combined, long-term - systemic			0.0828
Contributing Scenario [CS] PROC2	Worker - dermal, long-term - systemic			0.327
Contributing Scenario [CS] PROC2	Worker - inhalative, long-term - systemic			0.417
Contributing Scenario [CS]	Worker - combined,			0.744

PROC2	long-term - systemic			
Contributing Scenario [CS] PROC3	Worker - dermal, long-term - systemic			0.082
Contributing Scenario [CS] PROC3	Worker - inhalative, long-term - systemic			0.25
Contributing Scenario [CS] PROC3	Worker - combined, long-term - systemic			0.332
Contributing Scenario [CS] PROC5	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC5	Worker - inhalative, long-term - systemic			0.0417
Contributing Scenario [CS] PROC5	Worker - combined, long-term - systemic			0.3717
Contributing Scenario [CS] PROC8a	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC8a	Worker - inhalative, long-term - systemic			0.104
Contributing Scenario [CS] PROC8a	Worker - combined, long-term - systemic			0.434
Contributing Scenario [CS] PROC8b	Worker - dermal, long-term - systemic			0.16
Contributing Scenario [CS] PROC8b	Worker - inhalative, long-term - systemic			0.834
Contributing Scenario [CS] PROC8b	Worker - combined, long-term - systemic			0.994
Contributing Scenario [CS] PROC20	Worker - dermal, long-term - systemic			0.408
Contributing Scenario [CS] PROC20	Worker - inhalative, long-term - systemic			0.417
Contributing Scenario [CS] PROC20	Worker - combined, long-term - systemic			0.825

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the applicable exposure limits (given in section 8 of the SDS) when the operational conditions/risk management measures given in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

<i>Product Name</i>	Polyol TD
<i>Chemical Name</i>	Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl -1,3-dioxane-5-methanol and propylidynetrimethanol
<i>CAS No</i>	n.a.
<i>EC No</i>	904-153-2
<i>REACH registration number</i>	01-2119488034-38-0000
<i>Pure substance/mixture</i>	Substance

Exposure scenario

Section 1 - Title

Title	ES9C - Consumer use: Hydraulic fluids.
Version	1
Product Name	Polyol TD
Revision Date	01-Feb-2017
Product category(ies)	PC17 - Hydraulic fluids
Article categories [AC]	AC1a - Passenger cars and motor cycles AC1b - Other vehicles: Railway, aircraft, vessels, boats, trucks, and associated transport equipment

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies)	ERC9b - Wide dispersive outdoor use of substances in closed systems
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Remarks
Not relevant since not classified as dangerous for the environment.

Section 2.2 - Control of consumer exposure

Control of consumer exposure	
Title	Contributing Scenario [CS] PC17
Product (sub) category(ies)	PC17 - Hydraulic fluids
Covers concentrations up to	5%
Amounts used	5 kg
Exposure duration	4h
Use frequency	1 events per day

Section 3 - Exposure estimation

Environmental exposure	Not relevant since not classified as dangerous for the environment.
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Environmental release category(ies)	ERC9b - Wide dispersive outdoor use of substances in closed systems
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Control of consumer exposure

Calculation method

The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated

Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PC17	Consumer - dermal, long-term - systemic			0.094

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the applicable exposure limits (given in section 8 of the SDS) when the operational conditions/risk management measures given in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name	Polyol TD
Chemical Name	Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl -1,3-dioxane-5-methanol and propylidynetrimethanol
CAS No	n.a.
EC No	904-153-2
REACH registration number	01-2119488034-38-0000
Pure substance/mixture	Substance

Exposure scenario

Section 1 - Title

Title	ES10A - Industrial Use in paints and in lacquers.
Version	1
Product Name	Polyol TD
Revision Date	01-Feb-2017
Sector(s) of use	SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies)	ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles ERC5 - Industrial use resulting in inclusion into or onto a matrix
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Remarks

Not relevant since not classified as dangerous for the environment.

Waste management

Hazardous waste incineration. Onsite wastewater treatment required. Acclimated biological treatment. No application of sewage sludge to soil.

Section 2.2 - Control of worker exposure

Control of worker exposure

Title	Contributing Scenario [CS] PROC1, PROC2, PROC3 Respiratory protection
Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure PROC2 - Use in closed, continuous process with occasional controlled exposure PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	30%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95%
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Title	Contributing Scenario [CS] PROC1, PROC2, PROC3 Local exhaust ventilation
Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure PROC2 - Use in closed, continuous process with occasional controlled exposure PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	30%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Technical conditions and measures to control dispersion from source towards the worker	Use with local exhaust ventilation
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Title	Contributing Scenario [CS] PROC4, PROC5, PROC8a, PROC8b, PROC10, PROC13 Respiratory protection
Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact) PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC10 - Roller application or brushing PROC13 - Treatment of articles by dipping and pouring
Covers concentrations up to	30%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training Wear a respirator providing a minimum efficiency of 95%
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Title	Contributing Scenario [CS] PROC4, PROC5, PROC8a, PROC8b, PROC10, PROC13 Local exhaust ventilation
Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact) PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC10 - Roller application or brushing PROC13 - Treatment of articles by dipping and pouring
Covers concentrations up to	30%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Technical conditions and measures to control dispersion from source	Use with local exhaust ventilation

towards the worker	
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Title	Contributing Scenario [CS] PROC7
Process category(ies)	PROC7 - Industrial spraying
Covers concentrations up to	30%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Technical conditions and measures to control dispersion from source towards the worker	Use with local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95% Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Section 3 - Exposure estimation

Environmental exposure Not relevant since not classified as dangerous for the environment.

Environmental release category(ies) ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles
ERC5 - Industrial use resulting in inclusion into or onto a matrix

Control of worker exposure

Calculation method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PROC1 Respiratory protection	Worker - dermal, long-term - systemic			0.0817
Contributing Scenario [CS] PROC1 Respiratory protection	Worker - inhalative, long-term - systemic			0.0002
Contributing Scenario [CS] PROC1 Respiratory protection	Worker - combined, long-term - systemic			0.0819
Contributing Scenario [CS] PROC1 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.008
Contributing Scenario [CS] PROC1 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.00417
Contributing Scenario [CS] PROC1 Local exhaust	Worker - combined, long-term - systemic			0.012

ventilation				
Contributing Scenario [CS] PROC2 Respiratory protection	Worker - dermal, long-term - systemic			0.326
Contributing Scenario [CS] PROC2 Respiratory protection	Worker - inhalative, long-term - systemic			0.0209
Contributing Scenario [CS] PROC2 Respiratory protection	Worker - combined, long-term - systemic			0.3469
Contributing Scenario [CS] PROC2 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.0326
Contributing Scenario [CS] PROC2 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.0417
Contributing Scenario [CS] PROC2 Local exhaust ventilation	Worker - combined, long-term - systemic			0.0743
Contributing Scenario [CS] PROC3 Respiratory protection	Worker - dermal, long-term - systemic			0.0817
Contributing Scenario [CS] PROC3 Respiratory protection	Worker - inhalative, long-term - systemic			0.0626
Contributing Scenario [CS] PROC3 Respiratory protection	Worker - combined, long-term - systemic			0.1443
Contributing Scenario [CS] PROC3 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.00817
Contributing Scenario [CS] PROC3 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.125
Contributing Scenario [CS] PROC3 Local exhaust ventilation	Worker - combined, long-term - systemic			0.13317
Contributing Scenario [CS] PROC4 Respiratory protection	Worker - dermal, long-term - systemic			0.16
Contributing Scenario [CS] PROC4 Respiratory protection	Worker - inhalative, long-term - systemic			0.1041
Contributing Scenario [CS] PROC4 Respiratory protection	Worker - combined, long-term - systemic			0.2641
Contributing Scenario [CS] PROC4 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.1633
Contributing Scenario [CS] PROC4 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.2089
Contributing Scenario [CS] PROC4 Local exhaust ventilation	Worker - combined, long-term - systemic			0.3722
Contributing Scenario [CS] PROC5 Respiratory protection	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC5 Respiratory protection	Worker - inhalative, long-term - systemic			0.1041
Contributing Scenario [CS] PROC5 Respiratory protection	Worker - combined, long-term - systemic			0.4341
Contributing Scenario [CS] PROC5 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.01633

Contributing Scenario [CS] PROC5 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.2089
Contributing Scenario [CS] PROC5 Local exhaust ventilation	Worker - combined, long-term - systemic			0.22523
Contributing Scenario [CS] PROC7 Local exhaust ventilation Respiratory protection	Worker - dermal, long-term - systemic			0.5095
Contributing Scenario [CS] PROC7 Local exhaust ventilation Respiratory protection	Worker - inhalative, long-term - systemic			0.209
Contributing Scenario [CS] PROC7 Local exhaust ventilation Respiratory protection	Worker - combined, long-term - systemic			0.72
Contributing Scenario [CS] PROC8a Respiratory protection	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC8a Respiratory protection	Worker - inhalative, long-term - systemic			0.2089
Contributing Scenario [CS] PROC8a Respiratory protection	Worker - combined, long-term - systemic			0.5389
Contributing Scenario [CS] PROC8a Local exhaust ventilation	Worker - dermal, long-term - systemic			0.0326
Contributing Scenario [CS] PROC8a Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.4171
Contributing Scenario [CS] PROC8a Local exhaust ventilation	Worker - combined, long-term - systemic			0.4497
Contributing Scenario [CS] PROC8b Respiratory protection	Worker - dermal, long-term - systemic			0.16
Contributing Scenario [CS] PROC8b Respiratory protection	Worker - inhalative, long-term - systemic			0.1041
Contributing Scenario [CS] PROC8b Respiratory protection	Worker - combined, long-term - systemic			0.2641
Contributing Scenario [CS] PROC8b Local exhaust ventilation	Worker - dermal, long-term - systemic			0.1633
Contributing Scenario [CS] PROC8b Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.0626
Contributing Scenario [CS] PROC8b Local exhaust ventilation	Worker - combined, long-term - systemic			0.2259
Contributing Scenario [CS] PROC10 Respiratory protection	Worker - dermal, long-term - systemic			0.65
Contributing Scenario [CS] PROC10 Respiratory protection	Worker - inhalative, long-term - systemic			0.2089
Contributing Scenario [CS] PROC10 Respiratory protection	Worker - combined, long-term - systemic			0.8589
Contributing Scenario [CS] PROC10 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.3262
Contributing Scenario [CS]	Worker - inhalative,			0.7432

PROC10 Local exhaust ventilation	long-term - systemic			
Contributing Scenario [CS] PROC10 Local exhaust ventilation	Worker - combined, long-term - systemic			0.576
Contributing Scenario [CS] PROC13 Respiratory protection	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC13 Respiratory protection	Worker - inhalative, long-term - systemic			0.2089
Contributing Scenario [CS] PROC13 Respiratory protection	Worker - combined, long-term - systemic			0.5389
Contributing Scenario [CS] PROC13 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.1633
Contributing Scenario [CS] PROC13 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.417
Contributing Scenario [CS] PROC13 Local exhaust ventilation	Worker - combined, long-term - systemic			0.5803

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the applicable exposure limits (given in section 8 of the SDS) when the operational conditions/risk management measures given in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name	Polyol TD
Chemical Name	Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl -1,3-dioxane-5-methanol and propylidynetrimethanol
CAS No	n.a.
EC No	904-153-2
REACH registration number	01-2119488034-38-0000
Pure substance/mixture	Substance

Exposure scenario

Section 1 - Title

Title	ES10B - Professional Use in paints and in lacquers.
Version	1
Product Name	Polyol TD
Revision Date	01-Feb-2017
Sector(s) of use	SU22 - Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Product category(ies)	PC9 - Coatings and paints, fillers, putties, thinners

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies)	ERC8a - Wide dispersive indoor use of processing aids in open systems ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix ERC8d - Wide dispersive outdoor use of processing aids in open systems ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix
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Remarks
Not relevant since not classified as dangerous for the environment.

Section 2.2 - Control of worker exposure

Control of worker exposure

Title	Contributing Scenario [CS] PROC2, PROC3 Respiratory protection
Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	10%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95%
Organisational measures to prevent	Ensure operatives are trained to minimise exposures

/limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Title	Contributing Scenario [CS] PROC2, PROC3 Local exhaust ventilation
Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	10%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Technical conditions and measures to control dispersion from source towards the worker	Use with local exhaust ventilation
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Title	Contributing Scenario [CS] PROC4, PROC5, PROC8a, PROC8b, PROC10 Respiratory protection
Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact) PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC10 - Roller application or brushing
Covers concentrations up to	10%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training Wear a respirator providing a minimum efficiency of 95%
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Title	Contributing Scenario [CS] PROC4, PROC5, PROC8b Local exhaust ventilation
Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact) PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Covers concentrations up to	10%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Technical conditions and measures to control dispersion from source towards the worker	Use with local exhaust ventilation
Conditions and measures related to personal protection, hygiene and	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training

health evaluation	
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Title	Contributing Scenario [CS] PROC11, PROC19
Process category(ies)	PROC11 - Non industrial spraying PROC19 - Hand-mixing with intimate contact and only PPE available
Covers concentrations up to	10%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Technical conditions and measures to control dispersion from source towards the worker	Use with local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95% Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Section 3 - Exposure estimation

Environmental exposure Not relevant since not classified as dangerous for the environment.

Environmental release category(ies)

- ERC8a - Wide dispersive indoor use of processing aids in open systems
- ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix
- ERC8d - Wide dispersive outdoor use of processing aids in open systems
- ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix

Control of worker exposure

Calculation method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PROC2 Respiratory protection	Worker - dermal, long-term - systemic			0.326
Contributing Scenario [CS] PROC2 Respiratory protection	Worker - inhalative, long-term - systemic			0.0626
Contributing Scenario [CS] PROC2 Respiratory protection	Worker - combined, long-term - systemic			0.3886
Contributing Scenario [CS] PROC2 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.0326
Contributing Scenario [CS] PROC2 Local exhaust	Worker - inhalative, long-term - systemic			0.250

ventilation				
Contributing Scenario [CS] PROC2 Local exhaust ventilation	Worker - combined, long-term - systemic			0.2826
Contributing Scenario [CS] PROC3 Respiratory protection	Worker - dermal, long-term - systemic			0.0817
Contributing Scenario [CS] PROC3 Respiratory protection	Worker - inhalative, long-term - systemic			0.0375
Contributing Scenario [CS] PROC3 Respiratory protection	Worker - combined, long-term - systemic			0.1192
Contributing Scenario [CS] PROC3 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.00816
Contributing Scenario [CS] PROC3 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.150
Contributing Scenario [CS] PROC3 Local exhaust ventilation	Worker - combined, long-term - systemic			0.15816
Contributing Scenario [CS] PROC4 Respiratory protection	Worker - dermal, long-term - systemic			0.16
Contributing Scenario [CS] PROC4 Respiratory protection	Worker - inhalative, long-term - systemic			0.125
Contributing Scenario [CS] PROC4 Respiratory protection	Worker - combined, long-term - systemic			0.285
Contributing Scenario [CS] PROC4 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.1633
Contributing Scenario [CS] PROC4 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.50
Contributing Scenario [CS] PROC4 Local exhaust ventilation	Worker - combined, long-term - systemic			0.6633
Contributing Scenario [CS] PROC5 Respiratory protection	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC5 Respiratory protection	Worker - inhalative, long-term - systemic			0.125
Contributing Scenario [CS] PROC5 Respiratory protection	Worker - combined, long-term - systemic			0.455
Contributing Scenario [CS] PROC5 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.01633
Contributing Scenario [CS] PROC5 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.50
Contributing Scenario [CS] PROC5 Local exhaust ventilation	Worker - combined, long-term - systemic			0.51633
Contributing Scenario [CS] PROC8a Respiratory protection	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC8a Respiratory protection	Worker - inhalative, long-term - systemic			0.313
Contributing Scenario [CS] PROC8a Respiratory protection	Worker - combined, long-term - systemic			0.643

Contributing Scenario [CS] PROC8b Respiratory protection	Worker - dermal, long-term - systemic			0.16
Contributing Scenario [CS] PROC8b Respiratory protection	Worker - inhalative, long-term - systemic			0.125
Contributing Scenario [CS] PROC8b Respiratory protection	Worker - combined, long-term - systemic			0.285
Contributing Scenario [CS] PROC8b Local exhaust ventilation	Worker - dermal, long-term - systemic			0.163
Contributing Scenario [CS] PROC8b Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.25
Contributing Scenario [CS] PROC8b Local exhaust ventilation	Worker - combined, long-term - systemic			0.413
Contributing Scenario [CS] PROC10 Respiratory protection	Worker - dermal, long-term - systemic			0.65
Contributing Scenario [CS] PROC10 Respiratory protection	Worker - inhalative, long-term - systemic			0.313
Contributing Scenario [CS] PROC10 Respiratory protection	Worker - combined, long-term - systemic			0.963
Contributing Scenario [CS] PROC11 Respiratory protection Local exhaust ventilation	Worker - dermal, long-term - systemic			0.5102
Contributing Scenario [CS] PROC11 Respiratory protection Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.25
Contributing Scenario [CS] PROC11 Respiratory protection Local exhaust ventilation	Worker - combined, long-term - systemic			0.76
Contributing Scenario [CS] PROC19 Respiratory protection Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.34
Contributing Scenario [CS] PROC19 Respiratory protection Local exhaust ventilation	Worker - inhalative, long-term - local			0.06
Contributing Scenario [CS] PROC19 Respiratory protection Local exhaust ventilation	Worker - combined, long-term - systemic			0.4

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the applicable exposure limits (given in section 8 of the SDS) when the operational conditions/risk management measures given in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name	Polyol TD
Chemical Name	Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl -1,3-dioxane-5-methanol and propylidynetrimethanol
CAS No	n.a.
EC No	904-153-2
REACH registration number	01-2119488034-38-0000
Pure substance/mixture	Substance

Exposure scenario

Section 1 - Title

Title	ES10C - Consumer use in paints and in lacquers.
Version	1
Product Name	Polyol TD
Revision Date	01-Feb-2017
Sector(s) of use	SU21 - Consumer uses: Private households (= general public = consumers)
Product category(ies)	PC9 - Coatings and paints, fillers, putties, thinners

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies)	ERC8a - Wide dispersive indoor use of processing aids in open systems ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix ERC8d - Wide dispersive outdoor use of processing aids in open systems ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix
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Remarks
Not relevant since not classified as dangerous for the environment.

Section 2.2 - Control of consumer exposure

Control of consumer exposure	
Title	Contributing Scenario [CS] PC9
Product (sub) category(ies)	PC9 - Coatings and paints, fillers, putties, thinners
Covers concentrations up to	10%
Amounts used	3.75 kg
Exposure duration	132 min
Use frequency	2/year

Section 3 - Exposure estimation

Environmental exposure	Not relevant since not classified as dangerous for the environment.
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Environmental release category(ies)

ERC8a - Wide dispersive indoor use of processing aids in open systems
 ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix
 ERC8d - Wide dispersive outdoor use of processing aids in open systems
 ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix

Control of consumer exposure

Calculation method

The Consexpo model has been used to estimate consumer exposures unless otherwise indicated

Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PC9	Consumer - dermal, long-term - systemic			0.0132
Contributing Scenario [CS] PC9	Consumer - inhalative, long-term - systemic			0.0
Contributing Scenario [CS] PC9	Consumer - combined, long-term - systemic			0.0132

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the applicable exposure limits (given in section 8 of the SDS) when the operational conditions/risk management measures given in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name	Polyol TD
Chemical Name	Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl -1,3-dioxane-5-methanol and propylidynetrimethanol
CAS No	n.a.
EC No	904-153-2
REACH registration number	01-2119488034-38-0000
Pure substance/mixture	Substance

Exposure scenario

Section 1 - Title

Title	ES11A - Industrial Use: Adhesives, sealants.
Version	1
Product Name	Polyol TD
Revision Date	01-Feb-2017
Sector(s) of use	SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies)	ERC5 - Industrial use resulting in inclusion into or onto a matrix ERC6c - Industrial use of monomers for manufacture of thermoplastics
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Remarks

Not relevant since not classified as dangerous for the environment.

Waste management

Hazardous waste incineration. Onsite wastewater treatment required. Acclimated biological treatment. No application of sewage sludge to soil.

Section 2.2 - Control of worker exposure

Control of worker exposure

Title	Contributing Scenario [CS] PROC1, PROC2, PROC3, PROC14, PROC15 Respiratory protection
Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure PROC2 - Use in closed, continuous process with occasional controlled exposure PROC3 - Use in closed batch process (synthesis or formulation) PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising PROC15 - Use as laboratory reagent
Covers concentrations up to	10%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95%
Organisational measures to prevent	Ensure operatives are trained to minimise exposures

/limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Title	Contributing Scenario [CS] PROC1, PROC2, PROC3, PROC14, PROC15 Local exhaust ventilation
Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure PROC2 - Use in closed, continuous process with occasional controlled exposure PROC3 - Use in closed batch process (synthesis or formulation) PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising PROC15 - Use as laboratory reagent
Covers concentrations up to	10%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Technical conditions and measures to control dispersion from source towards the worker	Use with local exhaust ventilation
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Title	Contributing Scenario [CS] PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC10, PROC13 Respiratory protection
Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact) PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC10 - Roller application or brushing PROC13 - Treatment of articles by dipping and pouring
Covers concentrations up to	10%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training Wear a respirator providing a minimum efficiency of 95%
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Title	Contributing Scenario [CS] PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC10, PROC13 Local exhaust ventilation
Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact) PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC9 - Transfer of substance or preparation into small containers (dedicated filling

	line, including weighing) PROC10 - Roller application or brushing PROC13 - Treatment of articles by dipping and pouring
Covers concentrations up to	10%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Technical conditions and measures to control dispersion from source towards the worker	Use with local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Title	Contributing Scenario [CS] PROC7
Process category(ies)	PROC7 - Industrial spraying
Covers concentrations up to	10%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Technical conditions and measures to control dispersion from source towards the worker	Use with local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95% Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Section 3 - Exposure estimation

Environmental exposure Not relevant since not classified as dangerous for the environment.

Environmental release category(ies) ERC5 - Industrial use resulting in inclusion into or onto a matrix
ERC6c - Industrial use of monomers for manufacture of thermoplastics

Control of worker exposure

Calculation method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PROC1 Respiratory protection	Worker - dermal, long-term - systemic			0.0817
Contributing Scenario [CS] PROC1 Respiratory protection	Worker - inhalative, long-term - systemic			0.0001
Contributing Scenario [CS]	Worker - combined,			0.0818

PROC1 Respiratory protection	long-term - systemic			
Contributing Scenario [CS] PROC1 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.00817
Contributing Scenario [CS] PROC1 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.0025
Contributing Scenario [CS] PROC1 Local exhaust ventilation	Worker - combined, long-term - systemic			0.01067
Contributing Scenario [CS] PROC2 Respiratory protection	Worker - dermal, long-term - systemic			0.326
Contributing Scenario [CS] PROC2 Respiratory protection	Worker - inhalative, long-term - systemic			0.0125
Contributing Scenario [CS] PROC2 Respiratory protection	Worker - combined, long-term - systemic			0.3385
Contributing Scenario [CS] PROC2 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.0326
Contributing Scenario [CS] PROC2 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.025
Contributing Scenario [CS] PROC2 Local exhaust ventilation	Worker - combined, long-term - systemic			0.0576
Contributing Scenario [CS] PROC3 Respiratory protection	Worker - dermal, long-term - systemic			0.0817
Contributing Scenario [CS] PROC3 Respiratory protection	Worker - inhalative, long-term - systemic			0.0375
Contributing Scenario [CS] PROC3 Respiratory protection	Worker - combined, long-term - systemic			0.1192
Contributing Scenario [CS] PROC3 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.00817
Contributing Scenario [CS] PROC3 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.0753
Contributing Scenario [CS] PROC3 Local exhaust ventilation	Worker - combined, long-term - systemic			0.08347
Contributing Scenario [CS] PROC4 Respiratory protection	Worker - dermal, long-term - systemic			0.016
Contributing Scenario [CS] PROC4 Respiratory protection	Worker - inhalative, long-term - systemic			0.0626
Contributing Scenario [CS] PROC4 Respiratory protection	Worker - combined, long-term - systemic			0.2226
Contributing Scenario [CS] PROC4 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.1633
Contributing Scenario [CS] PROC4 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.1253
Contributing Scenario [CS] PROC4 Local exhaust ventilation	Worker - combined, long-term - systemic			0.2886
Contributing Scenario [CS] PROC5 Respiratory	Worker - dermal, long-term - systemic			0.33

protection				
Contributing Scenario [CS] PROC5 Respiratory protection	Worker - inhalative, long-term - systemic			0.0626
Contributing Scenario [CS] PROC5 Respiratory protection	Worker - combined, long-term - systemic			0.3926
Contributing Scenario [CS] PROC5 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.01633
Contributing Scenario [CS] PROC5 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.1253
Contributing Scenario [CS] PROC5 Local exhaust ventilation	Worker - combined, long-term - systemic			0.14163
Contributing Scenario [CS] PROC7 Local exhaust ventilation Respiratory protection	Worker - dermal, long-term - systemic			0.5095
Contributing Scenario [CS] PROC7 Local exhaust ventilation Respiratory protection	Worker - inhalative, long-term - systemic			0.063
Contributing Scenario [CS] PROC7 Local exhaust ventilation Respiratory protection	Worker - combined, long-term - systemic			0.57
Contributing Scenario [CS] PROC8a Respiratory protection	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC8a Respiratory protection	Worker - inhalative, long-term - systemic			0.125
Contributing Scenario [CS] PROC8a Respiratory protection	Worker - combined, long-term - systemic			0.455
Contributing Scenario [CS] PROC8a Local exhaust ventilation	Worker - dermal, long-term - systemic			0.0326
Contributing Scenario [CS] PROC8a Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.25
Contributing Scenario [CS] PROC8a Local exhaust ventilation	Worker - combined, long-term - systemic			0.2826
Contributing Scenario [CS] PROC8b Respiratory protection	Worker - dermal, long-term - systemic			0.16
Contributing Scenario [CS] PROC8b Respiratory protection	Worker - inhalative, long-term - systemic			0.0626
Contributing Scenario [CS] PROC8b Respiratory protection	Worker - combined, long-term - systemic			0.2226
Contributing Scenario [CS] PROC8b Local exhaust ventilation	Worker - dermal, long-term - systemic			0.1633
Contributing Scenario [CS] PROC8b Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.0375
Contributing Scenario [CS] PROC8b Local exhaust ventilation	Worker - combined, long-term - systemic			0.2008
Contributing Scenario [CS] PROC9 Respiratory protection	Worker - dermal, long-term - systemic			0.16

Contributing Scenario [CS] PROC9 Respiratory protection	Worker - inhalative, long-term - systemic			0.0626
Contributing Scenario [CS] PROC9 Respiratory protection	Worker - combined, long-term - systemic			0.2226
Contributing Scenario [CS] PROC9 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.1633
Contributing Scenario [CS] PROC9 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.125
Contributing Scenario [CS] PROC9 Local exhaust ventilation	Worker - combined, long-term - systemic			0.2883
Contributing Scenario [CS] PROC10 Respiratory protection	Worker - dermal, long-term - systemic			0.65
Contributing Scenario [CS] PROC10 Respiratory protection	Worker - inhalative, long-term - systemic			0.125
Contributing Scenario [CS] PROC10 Respiratory protection	Worker - combined, long-term - systemic			0.775
Contributing Scenario [CS] PROC10 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.326
Contributing Scenario [CS] PROC10 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.25
Contributing Scenario [CS] PROC10 Local exhaust ventilation	Worker - combined, long-term - systemic			0.576
Contributing Scenario [CS] PROC13 Respiratory protection	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC13 Respiratory protection	Worker - inhalative, long-term - systemic			0.125
Contributing Scenario [CS] PROC13 Respiratory protection	Worker - combined, long-term - systemic			0.455
Contributing Scenario [CS] PROC13 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.1633
Contributing Scenario [CS] PROC13 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.25
Contributing Scenario [CS] PROC13 Local exhaust ventilation	Worker - combined, long-term - systemic			0.4133
Contributing Scenario [CS] PROC14 Respiratory protection	Worker - dermal, long-term - systemic			0.817
Contributing Scenario [CS] PROC14 Respiratory protection	Worker - inhalative, long-term - systemic			0.0626
Contributing Scenario [CS] PROC14 Respiratory protection	Worker - combined, long-term - systemic			0.8796
Contributing Scenario [CS] PROC14 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.0817
Contributing Scenario [CS] PROC14 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.125
Contributing Scenario [CS]	Worker - combined,			0.2067

PROC14 Local exhaust ventilation	long-term - systemic			
Contributing Scenario [CS] PROC15 Respiratory protection	Worker - inhalative, long-term - systemic			0.0817
Contributing Scenario [CS] PROC15 Respiratory protection	Worker - inhalative, long-term - local			0.0626
Contributing Scenario [CS] PROC15 Respiratory protection	Worker - combined, long-term - systemic			0.1443
Contributing Scenario [CS] PROC15 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.00817
Contributing Scenario [CS] PROC15 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.125
Contributing Scenario [CS] PROC15 Local exhaust ventilation	Worker - inhalative, long-term - local			0.13317

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the applicable exposure limits (given in section 8 of the SDS) when the operational conditions/risk management measures given in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

<i>Product Name</i>	Polyol TD
<i>Chemical Name</i>	Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl -1,3-dioxane-5-methanol and propylidynetrimethanol
<i>CAS No</i>	n.a.
<i>EC No</i>	904-153-2
<i>REACH registration number</i>	01-2119488034-38-0000
<i>Pure substance/mixture</i>	Substance

Exposure scenario

Section 1 - Title

Title	ES11B - Professional Use: Adhesives, sealants.
Version	1
Product Name	Polyol TD
Revision Date	01-Feb-2017
Sector(s) of use	SU22 - Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Product category(ies)	PC1 - Adhesives, sealants

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies)	ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix
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Remarks
Not relevant since not classified as dangerous for the environment.

Section 2.2 - Control of worker exposure

Control of worker exposure

Title	Contributing Scenario [CS] PROC2, PROC3 Respiratory protection
Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	10%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95%
Organisational measures to prevent/limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Title	Contributing Scenario [CS] PROC2, PROC3 Local exhaust ventilation
Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	10%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Technical conditions and measures to control dispersion from source towards the worker	Use with local exhaust ventilation
Organisational measures to prevent/limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Title	Contributing Scenario [CS] PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC10, PROC13 Respiratory protection
Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact) PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC10 - Roller application or brushing PROC13 - Treatment of articles by dipping and pouring
Covers concentrations up to	10%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training Wear a respirator providing a minimum efficiency of 95%
Organisational measures to prevent/limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Title	Contributing Scenario [CS] PROC4, PROC5, PROC8b, PROC9, PROC13 Local exhaust ventilation
Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact) PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC13 - Treatment of articles by dipping and pouring
Covers concentrations up to	10%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Technical conditions and measures to control dispersion from source towards the worker	Use with local exhaust ventilation

Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Title	Contributing Scenario [CS] PROC11, PROC19
Process category(ies)	PROC11 - Non industrial spraying PROC19 - Hand-mixing with intimate contact and only PPE available
Covers concentrations up to	10%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Technical conditions and measures to control dispersion from source towards the worker	Use with local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95% Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Section 3 - Exposure estimation

Environmental exposure Not relevant since not classified as dangerous for the environment.

Environmental release category(ies) ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix
ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix

Control of worker exposure

Calculation method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PROC2 Respiratory protection	Worker - dermal, long-term - systemic			0.326
Contributing Scenario [CS] PROC2 Respiratory protection	Worker - inhalative, long-term - systemic			0.062
Contributing Scenario [CS] PROC2 Respiratory protection	Worker - combined, long-term - systemic			0.3886
Contributing Scenario [CS] PROC2 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.0326
Contributing Scenario [CS] PROC2 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.250
Contributing Scenario [CS]	Worker - combined,			0.2826

PROC2 Local exhaust ventilation	long-term - systemic			
Contributing Scenario [CS] PROC3 Respiratory protection	Worker - dermal, long-term - systemic			0.0817
Contributing Scenario [CS] PROC3 Respiratory protection	Worker - inhalative, long-term - systemic			0.0375
Contributing Scenario [CS] PROC3 Respiratory protection	Worker - combined, long-term - systemic			0.1192
Contributing Scenario [CS] PROC3 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.00817
Contributing Scenario [CS] PROC3 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.150
Contributing Scenario [CS] PROC3 Local exhaust ventilation	Worker - combined, long-term - systemic			0.15816
Contributing Scenario [CS] PROC4 Respiratory protection	Worker - dermal, long-term - systemic			0.16
Contributing Scenario [CS] PROC4 Respiratory protection	Worker - inhalative, long-term - systemic			0.125
Contributing Scenario [CS] PROC4 Respiratory protection	Worker - combined, long-term - systemic			0.285
Contributing Scenario [CS] PROC4 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.1633
Contributing Scenario [CS] PROC4 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.5
Contributing Scenario [CS] PROC4 Local exhaust ventilation	Worker - combined, long-term - systemic			0.6633
Contributing Scenario [CS] PROC5 Respiratory protection	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC5 Respiratory protection	Worker - inhalative, long-term - systemic			0.125
Contributing Scenario [CS] PROC5 Respiratory protection	Worker - combined, long-term - systemic			0.455
Contributing Scenario [CS] PROC5 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.01633
Contributing Scenario [CS] PROC5 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.50
Contributing Scenario [CS] PROC5 Local exhaust ventilation	Worker - combined, long-term - systemic			0.51633
Contributing Scenario [CS] PROC8a Respiratory protection	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC8a Respiratory protection	Worker - inhalative, long-term - systemic			0.313
Contributing Scenario [CS] PROC8a Respiratory protection	Worker - combined, long-term - systemic			0.643
Contributing Scenario [CS] PROC8b Respiratory	Worker - dermal, long-term - systemic			0.16

protection				
Contributing Scenario [CS] PROC8b Respiratory protection	Worker - inhalative, long-term - systemic			0.125
Contributing Scenario [CS] PROC8b Respiratory protection	Worker - combined, long-term - systemic			0.285
Contributing Scenario [CS] PROC8b Local exhaust ventilation	Worker - dermal, long-term - systemic			0.1633
Contributing Scenario [CS] PROC8b Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.25
Contributing Scenario [CS] PROC8b Local exhaust ventilation	Worker - combined, long-term - systemic			0.413
Contributing Scenario [CS] PROC9 Respiratory protection	Worker - dermal, long-term - systemic			0.16
Contributing Scenario [CS] PROC9 Respiratory protection	Worker - inhalative, long-term - systemic			0.125
Contributing Scenario [CS] PROC9 Respiratory protection	Worker - combined, long-term - systemic			0.285
Contributing Scenario [CS] PROC9 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.1633
Contributing Scenario [CS] PROC9 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.50
Contributing Scenario [CS] PROC9 Local exhaust ventilation	Worker - combined, long-term - systemic			0.664
Contributing Scenario [CS] PROC10 Respiratory protection	Worker - dermal, long-term - systemic			0.65
Contributing Scenario [CS] PROC10 Respiratory protection	Worker - inhalative, long-term - systemic			0.313
Contributing Scenario [CS] PROC10 Respiratory protection	Worker - combined, long-term - systemic			0.963
Contributing Scenario [CS] PROC11 Respiratory protection Local exhaust ventilation	Worker - dermal, long-term - systemic			0.5102
Contributing Scenario [CS] PROC11 Respiratory protection Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.25
Contributing Scenario [CS] PROC11 Respiratory protection Local exhaust ventilation	Worker - combined, long-term - systemic			0.76
Contributing Scenario [CS] PROC13 Respiratory protection	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC13 Respiratory protection	Worker - inhalative, long-term - systemic			0.1253
Contributing Scenario [CS] PROC13 Respiratory protection	Worker - combined, long-term - systemic			0.455
Contributing Scenario [CS] PROC13 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.1633

Contributing Scenario [CS] PROC13 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.50
Contributing Scenario [CS] PROC13 Local exhaust ventilation	Worker - combined, long-term - systemic			0.6633
Contributing Scenario [CS] PROC19 Respiratory protection Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.34
Contributing Scenario [CS] PROC19 Respiratory protection Local exhaust ventilation	Worker - inhalative, long-term - local			0.06
Contributing Scenario [CS] PROC19 Respiratory protection Local exhaust ventilation	Worker - combined, long-term - systemic			0.4

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the applicable exposure limits (given in section 8 of the SDS) when the operational conditions/risk management measures given in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

<i>Product Name</i>	Polyol TD
<i>Chemical Name</i>	Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl -1,3-dioxane-5-methanol and propylidynetrimethanol
<i>CAS No</i>	n.a.
<i>EC No</i>	904-153-2
<i>REACH registration number</i>	01-2119488034-38-0000
<i>Pure substance/mixture</i>	Substance

Exposure scenario

Section 1 - Title

Title	ES11C - Consumer use: Adhesives, sealants.
Version	1
Product Name	Polyol TD
Revision Date	01-Feb-2017
Sector(s) of use	SU21 - Consumer uses: Private households (= general public = consumers)
Product category(ies)	PC1 - Adhesives, sealants
Article categories [AC]	AC0 - Other Articles B01, B02, B03, B04

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies)	ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix
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Remarks
Not relevant since not classified as dangerous for the environment.

Section 2.2 - Control of consumer exposure

Control of consumer exposure	
Title	Contributing Scenario [CS] PC1
Product (sub) category(ies)	PC1 - Adhesives, sealants
Covers concentrations up to	10%
Amounts used	390 g
Exposure duration	240 min
Use frequency	1/week

Section 3 - Exposure estimation

Environmental exposure	Not relevant since not classified as dangerous for the environment.
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Environmental release category(ies)	ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix
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ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix

Control of consumer exposure

Calculation method The Consexpo model has been used to estimate consumer exposures unless otherwise indicated

Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PC9	Consumer - dermal, long-term - systemic			0.0076
Contributing Scenario [CS] PC9	Consumer - inhalative, long-term - systemic			0.05
Contributing Scenario [CS] PC9	Consumer - combined, long-term - systemic			0.0576

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the applicable exposure limits (given in section 8 of the SDS) when the operational conditions/risk management measures given in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name	Polyol TD
Chemical Name	Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl -1,3-dioxane-5-methanol and propylidynetrimethanol
CAS No	n.a.
EC No	904-153-2
REACH registration number	01-2119488034-38-0000
Pure substance/mixture	Substance

Exposure scenario

Section 1 - Title

Title	ES12A - Industrial Use: in plaster.
Version	1
Product Name	Polyol TD
Revision Date	01-Feb-2017
Sector(s) of use	SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) ERC5 - Industrial use resulting in inclusion into or onto a matrix

Remarks
Not relevant since not classified as dangerous for the environment.

Waste management
Hazardous waste incineration. Onsite wastewater treatment required. Acclimated biological treatment. No application of sewage sludge to soil.

Section 2.2 - Control of worker exposure

Control of worker exposure

Title	Contributing Scenario [CS] PROC1, PROC2, PROC3, PROC14 Respiratory protection
Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure PROC2 - Use in closed, continuous process with occasional controlled exposure PROC3 - Use in closed batch process (synthesis or formulation) PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising
Covers concentrations up to	5%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95%
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Title	Contributing Scenario [CS] PROC1, PROC2, PROC3, PROC14 Local exhaust ventilation
Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure PROC2 - Use in closed, continuous process with occasional controlled exposure PROC3 - Use in closed batch process (synthesis or formulation) PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising
Covers concentrations up to	5%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Technical conditions and measures to control dispersion from source towards the worker	Use with local exhaust ventilation
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Title	Contributing Scenario [CS] PROC5, PROC8a, PROC8b, PROC9, PROC10 Respiratory protection
Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact) PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC10 - Roller application or brushing
Covers concentrations up to	5%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training Wear a respirator providing a minimum efficiency of 95%
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Title	Contributing Scenario [CS] PROC5, PROC8a, PROC8b, PROC9, PROC10 Local exhaust ventilation
Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact) PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC10 - Roller application or brushing
Covers concentrations up to	5%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Technical conditions and measures to control dispersion from source	Use with local exhaust ventilation

towards the worker	
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Title	Contributing Scenario [CS] PROC7, PROC19
Process category(ies)	PROC7 - Industrial spraying PROC19 - Hand-mixing with intimate contact and only PPE available
Covers concentrations up to	5%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Technical conditions and measures to control dispersion from source towards the worker	Use with local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Section 3 - Exposure estimation

Environmental exposure Not relevant since not classified as dangerous for the environment.

Environmental release category(ies) ERC5 - Industrial use resulting in inclusion into or onto a matrix

Control of worker exposure

Calculation method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PROC1 Respiratory protection	Worker - dermal, long-term - systemic			0.0817
Contributing Scenario [CS] PROC1 Respiratory protection	Worker - inhalative, long-term - systemic			0.00004
Contributing Scenario [CS] PROC1 Respiratory protection	Worker - combined, long-term - systemic			0.0817
Contributing Scenario [CS] PROC1 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.00817
Contributing Scenario [CS] PROC1 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.0008
Contributing Scenario [CS] PROC1 Local exhaust ventilation	Worker - combined, long-term - systemic			0.00897
Contributing Scenario [CS]	Worker - dermal,			0.326

PROC2 Respiratory protection	long-term - systemic			
Contributing Scenario [CS] PROC2 Respiratory protection	Worker - inhalative, long-term - systemic			0.004
Contributing Scenario [CS] PROC2 Respiratory protection	Worker - combined, long-term - systemic			0.33
Contributing Scenario [CS] PROC2 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.0326
Contributing Scenario [CS] PROC2 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.008
Contributing Scenario [CS] PROC2 Local exhaust ventilation	Worker - combined, long-term - systemic			0.0406
Contributing Scenario [CS] PROC3 Respiratory protection	Worker - dermal, long-term - systemic			0.0817
Contributing Scenario [CS] PROC3 Respiratory protection	Worker - inhalative, long-term - systemic			0.0125
Contributing Scenario [CS] PROC3 Respiratory protection	Worker - combined, long-term - systemic			0.0942
Contributing Scenario [CS] PROC3 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.00817
Contributing Scenario [CS] PROC3 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.025
Contributing Scenario [CS] PROC3 Local exhaust ventilation	Worker - combined, long-term - systemic			0.03317
Contributing Scenario [CS] PROC5 Respiratory protection	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC5 Respiratory protection	Worker - inhalative, long-term - systemic			0.02
Contributing Scenario [CS] PROC5 Respiratory protection	Worker - combined, long-term - systemic			0.35
Contributing Scenario [CS] PROC5 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.01633
Contributing Scenario [CS] PROC5 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.04
Contributing Scenario [CS] PROC5 Local exhaust ventilation	Worker - combined, long-term - systemic			0.05633
Contributing Scenario [CS] PROC7 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.5095
Contributing Scenario [CS] PROC7 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.417
Contributing Scenario [CS] PROC7 Local exhaust ventilation	Worker - combined, long-term - systemic			0.9265
Contributing Scenario [CS] PROC8a Respiratory protection	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC8a Respiratory protection	Worker - inhalative, long-term - systemic			0.0417

protection				
Contributing Scenario [CS] PROC8a Respiratory protection	Worker - combined, long-term - systemic			0.371
Contributing Scenario [CS] PROC8a Local exhaust ventilation	Worker - dermal, long-term - systemic			0.0326
Contributing Scenario [CS] PROC8a Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.084
Contributing Scenario [CS] PROC8a Local exhaust ventilation	Worker - combined, long-term - systemic			0.1166
Contributing Scenario [CS] PROC8b Respiratory protection	Worker - dermal, long-term - systemic			0.16
Contributing Scenario [CS] PROC8b Respiratory protection	Worker - inhalative, long-term - systemic			0.0209
Contributing Scenario [CS] PROC8b Respiratory protection	Worker - combined, long-term - systemic			0.18
Contributing Scenario [CS] PROC8b Local exhaust ventilation	Worker - dermal, long-term - systemic			0.1633
Contributing Scenario [CS] PROC8b Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.012
Contributing Scenario [CS] PROC8b Local exhaust ventilation	Worker - combined, long-term - systemic			0.1753
Contributing Scenario [CS] PROC9 Respiratory protection	Worker - dermal, long-term - systemic			0.16
Contributing Scenario [CS] PROC9 Respiratory protection	Worker - inhalative, long-term - systemic			0.0209
Contributing Scenario [CS] PROC9 Respiratory protection	Worker - combined, long-term - systemic			0.18
Contributing Scenario [CS] PROC9 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.1633
Contributing Scenario [CS] PROC9 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.0417
Contributing Scenario [CS] PROC9 Local exhaust ventilation	Worker - combined, long-term - systemic			0.205
Contributing Scenario [CS] PROC10 Respiratory protection	Worker - dermal, long-term - systemic			0.65
Contributing Scenario [CS] PROC10 Respiratory protection	Worker - inhalative, long-term - systemic			0.0417
Contributing Scenario [CS] PROC10 Respiratory protection	Worker - combined, long-term - systemic			0.69
Contributing Scenario [CS] PROC10 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.32619
Contributing Scenario [CS] PROC10 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.0836
Contributing Scenario [CS] PROC10 Local exhaust ventilation	Worker - combined, long-term - systemic			0.40979

Contributing Scenario [CS] PROC14 Respiratory protection	Worker - dermal, long-term - systemic			0.8167
Contributing Scenario [CS] PROC14 Respiratory protection	Worker - inhalative, long-term - systemic			0.0209
Contributing Scenario [CS] PROC14 Respiratory protection	Worker - combined, long-term - systemic			0.8376
Contributing Scenario [CS] PROC14 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.08167
Contributing Scenario [CS] PROC14 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.125
Contributing Scenario [CS] PROC14 Local exhaust ventilation	Worker - combined, long-term - systemic			0.12337
Contributing Scenario [CS] PROC19 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.34
Contributing Scenario [CS] PROC19 Local exhaust ventilation	Worker - inhalative, long-term - local			0.0836
Contributing Scenario [CS] PROC19 Local exhaust ventilation	Worker - combined, long-term - systemic			0.4236

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the applicable exposure limits (given in section 8 of the SDS) when the operational conditions/risk management measures given in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name	Polyol TD
Chemical Name	Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl -1,3-dioxane-5-methanol and propylidynetrimethanol
CAS No	n.a.
EC No	904-153-2
REACH registration number	01-2119488034-38-0000
Pure substance/mixture	Substance

Exposure scenario

Section 1 - Title

Title	ES12B - Professional Use in plaster.
Version	1
Product Name	Polyol TD
Revision Date	01-Feb-2017
Sector(s) of use	SU22 - Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies)	ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix
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Remarks
Not relevant since not classified as dangerous for the environment.

Section 2.2 - Control of worker exposure

Control of worker exposure

Title	Contributing Scenario [CS] PROC2, PROC3 Respiratory protection
Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	5%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95%
Organisational measures to prevent/limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Title	Contributing Scenario [CS]

	PROC2, PROC3 Local exhaust ventilation
Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	5%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Technical conditions and measures to control dispersion from source towards the worker	Use with local exhaust ventilation
Organisational measures to prevent/limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Title	Contributing Scenario [CS] PROC5, PROC8a, PROC8b, PROC9, PROC10 Respiratory protection
Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact) PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC10 - Roller application or brushing
Covers concentrations up to	5%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training Wear a respirator providing a minimum efficiency of 95%
Organisational measures to prevent/limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Title	Contributing Scenario [CS] PROC5, PROC8a, PROC8b, PROC9, PROC10 Local exhaust ventilation
Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact) PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC10 - Roller application or brushing
Covers concentrations up to	5%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Technical conditions and measures to control dispersion from source towards the worker	Use with local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training
Organisational measures to prevent	Ensure operatives are trained to minimise exposures

/limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Title	Contributing Scenario [CS] PROC11
Process category(ies)	PROC11 - Non industrial spraying
Covers concentrations up to	5%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Technical conditions and measures to control dispersion from source towards the worker	Use with local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95% Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Title	Contributing Scenario [CS] PROC19
Process category(ies)	PROC19 - Hand-mixing with intimate contact and only PPE available
Covers concentrations up to	5%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Technical conditions and measures to control dispersion from source towards the worker	Use with local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Section 3 - Exposure estimation

Environmental exposure Not relevant since not classified as dangerous for the environment.

Environmental release category(ies) ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix
ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix

Control of worker exposure

Calculation method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PROC2 Respiratory	Worker - dermal, long-term - systemic			0.326

protection				
Contributing Scenario [CS] PROC2 Respiratory protection	Worker - inhalative, long-term - systemic			0.0209
Contributing Scenario [CS] PROC2 Respiratory protection	Worker - combined, long-term - systemic			0.3469
Contributing Scenario [CS] PROC2 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.0326
Contributing Scenario [CS] PROC2 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.0836
Contributing Scenario [CS] PROC2 Local exhaust ventilation	Worker - combined, long-term - systemic			0.1162
Contributing Scenario [CS] PROC3 Respiratory protection	Worker - dermal, long-term - systemic			0.0817
Contributing Scenario [CS] PROC3 Respiratory protection	Worker - inhalative, long-term - systemic			0.0125
Contributing Scenario [CS] PROC3 Respiratory protection	Worker - combined, long-term - systemic			0.0942
Contributing Scenario [CS] PROC3 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.00817
Contributing Scenario [CS] PROC3 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.050
Contributing Scenario [CS] PROC3 Local exhaust ventilation	Worker - combined, long-term - systemic			0.05817
Contributing Scenario [CS] PROC5 Respiratory protection	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC5 Respiratory protection	Worker - inhalative, long-term - systemic			0.0417
Contributing Scenario [CS] PROC5 Respiratory protection	Worker - combined, long-term - systemic			0.3717
Contributing Scenario [CS] PROC5 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.01633
Contributing Scenario [CS] PROC5 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.167
Contributing Scenario [CS] PROC5 Local exhaust ventilation	Worker - combined, long-term - systemic			0.18333
Contributing Scenario [CS] PROC8a Respiratory protection	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC8a Respiratory protection	Worker - inhalative, long-term - systemic			0.1041
Contributing Scenario [CS] PROC8a Respiratory protection	Worker - combined, long-term - systemic			0.4341
Contributing Scenario [CS] PROC8a Local exhaust ventilation	Worker - dermal, long-term - systemic			0.03261
Contributing Scenario [CS] PROC8a Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.417

Contributing Scenario [CS] PROC8a Local exhaust ventilation	Worker - combined, long-term - systemic			0.44961
Contributing Scenario [CS] PROC8b Respiratory protection	Worker - dermal, long-term - systemic			0.16
Contributing Scenario [CS] PROC8b Respiratory protection	Worker - inhalative, long-term - systemic			0.0417
Contributing Scenario [CS] PROC8b Respiratory protection	Worker - combined, long-term - systemic			0.2017
Contributing Scenario [CS] PROC8b Local exhaust ventilation	Worker - dermal, long-term - systemic			0.1633
Contributing Scenario [CS] PROC8b Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.0836
Contributing Scenario [CS] PROC8b Local exhaust ventilation	Worker - combined, long-term - systemic			0.2469
Contributing Scenario [CS] PROC9 Respiratory protection	Worker - dermal, long-term - systemic			0.16
Contributing Scenario [CS] PROC9 Respiratory protection	Worker - inhalative, long-term - systemic			0.0417
Contributing Scenario [CS] PROC9 Respiratory protection	Worker - combined, long-term - systemic			0.2017
Contributing Scenario [CS] PROC9 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.1633
Contributing Scenario [CS] PROC9 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.167
Contributing Scenario [CS] PROC9 Local exhaust ventilation	Worker - combined, long-term - systemic			0.3303
Contributing Scenario [CS] PROC10 Respiratory protection	Worker - dermal, long-term - systemic			0.65
Contributing Scenario [CS] PROC10 Respiratory protection	Worker - inhalative, long-term - systemic			0.1041
Contributing Scenario [CS] PROC10 Respiratory protection	Worker - combined, long-term - systemic			0.7541
Contributing Scenario [CS] PROC10 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.3265
Contributing Scenario [CS] PROC10 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.417
Contributing Scenario [CS] PROC10 Local exhaust ventilation	Worker - combined, long-term - systemic			0.7435
Contributing Scenario [CS] PROC11 Respiratory protection Local exhaust ventilation	Worker - dermal, long-term - systemic			0.5102
Contributing Scenario [CS] PROC11 Respiratory protection Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.084
Contributing Scenario [CS] PROC11 Respiratory protection	Worker - combined, long-term - systemic			0.59

protection Local exhaust ventilation				
Contributing Scenario [CS] PROC19 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.34
Contributing Scenario [CS] PROC19 Local exhaust ventilation	Worker - inhalative, long-term - local			0.417
Contributing Scenario [CS] PROC19 Local exhaust ventilation	Worker - combined, long-term - systemic			0.757

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the applicable exposure limits (given in section 8 of the SDS) when the operational conditions/risk management measures given in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name	Polyol TD
Chemical Name	Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl -1,3-dioxane-5-methanol and propylidynetrimethanol
CAS No	n.a.
EC No	904-153-2
REACH registration number	01-2119488034-38-0000
Pure substance/mixture	Substance

Exposure scenario

Section 1 - Title

Title	ES12C - Consumer use in plaster.
Version	1
Product Name	Polyol TD
Revision Date	01-Feb-2017
Sector(s) of use	SU21 - Consumer uses: Private households (= general public = consumers)
Product category(ies)	PC9b - Fillers, putties, plasters, modelling clay PC10 - Building and construction preparations not covered elsewhere

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies)	ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix
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Remarks
Not relevant since not classified as dangerous for the environment.

Section 2.2 - Control of consumer exposure

Control of consumer exposure	
Title	Contributing Scenario [CS] PC9b, PC10
Product (sub) category(ies)	PC9b - Fillers, putties, plasters, modelling clay PC10 - Building and construction preparations not covered elsewhere
Covers concentrations up to	5%
Amounts used	2 g
Exposure duration	120 min
Use frequency	3/year

Section 3 - Exposure estimation

Environmental exposure Not relevant since not classified as dangerous for the environment.

Environmental release category(ies) ERC8c - Wide dispersive indoor use resulting in inclusion into

or onto a matrix
 ERC8f - Wide dispersive outdoor use resulting in inclusion into
 or onto a matrix

Control of consumer exposure

Calculation method The Consexpo model has been used to estimate consumer exposures unless otherwise indicated

Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PC9	Consumer - dermal, long-term - systemic			0.00272
Contributing Scenario [CS] PC9	Consumer - inhalative, long-term - systemic			-
Contributing Scenario [CS] PC9	Consumer - combined, long-term - systemic			0.00272

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the applicable exposure limits (given in section 8 of the SDS) when the operational conditions/risk management measures given in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name	Polyol TD
Chemical Name	Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl -1,3-dioxane-5-methanol and propylidynetrimethanol
CAS No	n.a.
EC No	904-153-2
REACH registration number	01-2119488034-38-0000
Pure substance/mixture	Substance

Exposure scenario

Section 1 - Title

Title	ES13A - Professional Use of polyurethane foams, of elastomers and other solid polyurethane materials.
Version	1
Product Name	Polyol TD
Revision Date	01-Feb-2017
Sector(s) of use	SU22 - Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies)	ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix
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Remarks
Not relevant since not classified as dangerous for the environment.

Section 2.2 - Control of worker exposure

Control of worker exposure

Title	Contributing Scenario [CS] PROC3 Respiratory protection
Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	10%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95%
Organisational measures to prevent/limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Title	Contributing Scenario [CS]

	PROC3 Local exhaust ventilation
Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	10%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Technical conditions and measures to control dispersion from source towards the worker	Use with local exhaust ventilation
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Title	Contributing Scenario [CS] PROC4, PROC5, PROC8a, PROC10 Respiratory protection
Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact) PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC10 - Roller application or brushing
Covers concentrations up to	10%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training Wear a respirator providing a minimum efficiency of 95%
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Title	Contributing Scenario [CS] PROC4, PROC5 Local exhaust ventilation
Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)
Covers concentrations up to	10%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Technical conditions and measures to control dispersion from source towards the worker	Use with local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Title	Contributing Scenario [CS] PROC11, PROC19
Process category(ies)	PROC11 - Non industrial spraying PROC19 - Hand-mixing with intimate contact and only PPE available

Covers concentrations up to	10%
Exposure duration	Avoid carrying out operation for more than 8h
Use frequency	220 days per year
Technical conditions and measures to control dispersion from source towards the worker	Use with local exhaust ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95% Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operatives are trained to minimise exposures Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Section 3 - Exposure estimation

Environmental exposure Not relevant since not classified as dangerous for the environment.

Environmental release category(ies) ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix
ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix

Control of worker exposure

Calculation method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PROC3 Respiratory protection	Worker - dermal, long-term - systemic			0.0817
Contributing Scenario [CS] PROC3 Respiratory protection	Worker - inhalative, long-term - systemic			0.0375
Contributing Scenario [CS] PROC3 Respiratory protection	Worker - combined, long-term - systemic			0.1192
Contributing Scenario [CS] PROC3 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.00817
Contributing Scenario [CS] PROC3 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.15
Contributing Scenario [CS] PROC3 Local exhaust ventilation	Worker - combined, long-term - systemic			0.15816
Contributing Scenario [CS] PROC4 Respiratory protection	Worker - dermal, long-term - systemic			0.16
Contributing Scenario [CS] PROC4 Respiratory protection	Worker - inhalative, long-term - systemic			0.1253
Contributing Scenario [CS] PROC4 Respiratory protection	Worker - combined, long-term - systemic			0.285
Contributing Scenario [CS]	Worker - dermal,			0.1633

PROC4 Local exhaust ventilation	long-term - systemic			
Contributing Scenario [CS] PROC4 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.50
Contributing Scenario [CS] PROC4 Local exhaust ventilation	Worker - combined, long-term - systemic			0.6633
Contributing Scenario [CS] PROC5 Respiratory protection	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC5 Respiratory protection	Worker - inhalative, long-term - systemic			0.1253
Contributing Scenario [CS] PROC5 Respiratory protection	Worker - combined, long-term - systemic			0.455
Contributing Scenario [CS] PROC5 Local exhaust ventilation	Worker - dermal, long-term - systemic			0.01633
Contributing Scenario [CS] PROC5 Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.50
Contributing Scenario [CS] PROC5 Local exhaust ventilation	Worker - combined, long-term - systemic			0.51633
Contributing Scenario [CS] PROC8a Respiratory protection	Worker - dermal, long-term - systemic			0.33
Contributing Scenario [CS] PROC8a Respiratory protection	Worker - inhalative, long-term - systemic			0.313
Contributing Scenario [CS] PROC8a Respiratory protection	Worker - combined, long-term - systemic			0.643
Contributing Scenario [CS] PROC10 Respiratory protection	Worker - dermal, long-term - systemic			0.65
Contributing Scenario [CS] PROC10 Respiratory protection	Worker - inhalative, long-term - systemic			0.313
Contributing Scenario [CS] PROC10 Respiratory protection	Worker - combined, long-term - systemic			0.963
Contributing Scenario [CS] PROC11 Respiratory protection Local exhaust ventilation	Worker - dermal, long-term - systemic			0.5095
Contributing Scenario [CS] PROC11 Respiratory protection Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.25
Contributing Scenario [CS] PROC11 Respiratory protection Local exhaust ventilation	Worker - combined, long-term - systemic			0.76
Contributing Scenario [CS] PROC19 Respiratory protection Local exhaust ventilation	Worker - inhalative, long-term - systemic			0.34
Contributing Scenario [CS] PROC19 Respiratory protection Local exhaust ventilation	Worker - inhalative, long-term - local			0.063
Contributing Scenario [CS] PROC19 Respiratory protection Local exhaust ventilation	Worker - combined, long-term - systemic			0.40

ventilation				
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Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the applicable exposure limits (given in section 8 of the SDS) when the operational conditions/risk management measures given in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

<i>Product Name</i>	Polyol TD
<i>Chemical Name</i>	Reaction mass of 2-ethylpropane-1,3-diol and 5-ethyl -1,3-dioxane-5-methanol and propylidynetrimethanol
<i>CAS No</i>	n.a.
<i>EC No</i>	904-153-2
<i>REACH registration number</i>	01-2119488034-38-0000
<i>Pure substance/mixture</i>	Substance

Exposure scenario

Section 1 - Title

Title	ES13B - Consumer use of polyurethane foams, of elastomers and other solid polyurethane materials.
Version	1
Product Name	Polyol TD
Revision Date	01-Feb-2017
Sector(s) of use	SU21 - Consumer uses: Private households (= general public = consumers)
Product category(ies)	PC32 - Polymer preparations and compounds

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies)	ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix
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Remarks
Not relevant since not classified as dangerous for the environment.

Section 2.2 - Control of consumer exposure

Control of consumer exposure	
Title	Contributing Scenario [CS] PC32
Product (sub) category(ies)	PC32 - Polymer preparations and compounds
Covers concentrations up to	10%
Amounts used	390 g
Exposure duration	240 min
Use frequency	3/year

Section 3 - Exposure estimation

Environmental exposure	Not relevant since not classified as dangerous for the environment.
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Environmental release category(ies)	ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix
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ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix

Control of consumer exposure

Calculation method The Consexpo model has been used to estimate consumer exposures unless otherwise indicated

Title	Exposure route	Calculation method	predicted exposure level	Risk characterisation ratio (RCR)
Contributing Scenario [CS] PC9	Consumer - dermal, long-term - systemic			0.0076
Contributing Scenario [CS] PC9	Consumer - inhalative, long-term - systemic			0.05
Contributing Scenario [CS] PC9	Consumer - combined, long-term - systemic			0.0576

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the applicable exposure limits (given in section 8 of the SDS) when the operational conditions/risk management measures given in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.