

SAFETY DATA SHEET

DOWSIL™ P Primer



Version 1.7 Revision Date: 2017.10.18 SDS Number: 967024-00008 Date of last issue: 18.03.2017
Date of first issue: 16.12.2014

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name : DOWSIL™ P Primer
Product code : 04009372

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

Use of the Sub-stance/Mixture : Adhesive, binding agents

1.3 Details of the supplier of the safety data sheet

Company : DOW EUROPE GMBH
BACHTOBELSTRASSE 3
8810 HORGEN
SWITZERLAND

Telephone : 31 115 67 2626

E-mail address of person responsible for the SDS : SDSQuestion@dow.com

1.4 Emergency telephone number

24-Hour Emergency Contact : 00 41 447 28 2820

Local Emergency Contact : 00 971 4883 18 28

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable liquids, Category 2	H225: Highly flammable liquid and vapour.
Skin irritation, Category 2	H315: Causes skin irritation.
Serious eye damage, Category 1	H318: Causes serious eye damage.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Reproductive toxicity, Category 2	H361d: Suspected of damaging the unborn child.
Specific target organ toxicity - single exposure, Category 3	H336: May cause drowsiness or dizziness.
Specific target organ toxicity - repeated exposure, Category 2	H373: May cause damage to organs through prolonged or repeated exposure.

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Chronic aquatic toxicity, Category 3

H412: Harmful to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Danger

Hazard statements : H225 Highly flammable liquid and vapour.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H336 May cause drowsiness or dizziness.
H361d Suspected of damaging the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P201 Obtain special instructions before use.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

Hazardous components which must be listed on the label:

Toluene

Butan-1-ol

Methyltrimethoxysilane

2.3 Other hazards

Vapours may form explosive mixture with air.
Static-accumulating flammable liquid.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Organosilane solution

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Hazardous components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Toluene	108-88-3 203-625-9 601-021-00-3 01-2119471310-51	Flam. Liq.2; H225 Skin Irrit.2; H315 Repr.2; H361d STOT SE3; H336 STOT RE2; H373 Asp. Tox.1; H304 Aquatic Chronic3; H412	>= 70 - < 90
Butan-1-ol	71-36-3 200-751-6 603-004-00-6 01-2119484630-38	Flam. Liq.3; H226 Acute Tox.4; H302 Skin Irrit.2; H315 Eye Dam.1; H318 STOT SE3; H336 STOT SE3; H335	>= 3 - < 10
Methyltrimethoxysilane	1185-55-3 214-685-0 01-2119517436-40	Flam. Liq.2; H225 Skin Sens.1B; H317	>= 1 - < 10

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

- General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.
- Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists.
- If inhaled : If inhaled, remove to fresh air.
Get medical attention.
- In case of skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Get medical attention.
Wash clothing before reuse.
Thoroughly clean shoes before reuse.
- In case of eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.
If easy to do, remove contact lens, if worn.
Get medical attention immediately.

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If swallowed : If swallowed, DO NOT induce vomiting.
Get medical attention.
Rinse mouth thoroughly with water.

4.2 Most important symptoms and effects, both acute and delayed

Risks : Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye damage.
May cause drowsiness or dizziness.
Suspected of damaging the unborn child.
May cause damage to organs through prolonged or repeated exposure.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically and supportively.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Water spray
Alcohol-resistant foam
Carbon dioxide (CO₂)
Dry chemical

Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : Do not use a solid water stream as it may scatter and spread fire.
Flash back possible over considerable distance.
Vapours may form explosive mixtures with air.
Exposure to combustion products may be a hazard to health.

Hazardous combustion products : Carbon oxides
Formaldehyde
Silicon oxides

5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment.

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Use water spray to cool unopened containers.
Remove undamaged containers from fire area if it is safe to do so.
Evacuate area.

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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Remove all sources of ignition.
Ventilate the area.
Use personal protective equipment.
Follow safe handling advice and personal protective equipment recommendations.

6.2 Environmental precautions

Environmental precautions : Discharge into the environment must be avoided.
Prevent further leakage or spillage if safe to do so.
Prevent spreading over a wide area (e.g. by containment or oil barriers).
Retain and dispose of contaminated wash water.
Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Non-sparking tools should be used.
Soak up with inert absorbent material.
Suppress (knock down) gases/vapours/mists with a water spray jet.
For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container.
Clean up remaining materials from spill with suitable absorbent.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Technical measures : Ensure all equipment is electrically grounded before beginning transfer operations.
This material can accumulate static charge due to its inherent physical properties and can therefore cause an electrical ignition source to vapors. In order to prevent a fire hazard, as bonding and grounding may be insufficient to remove static electricity, it is necessary to provide an inert gas purge before beginning transfer operations.
Restrict flow velocity in order to reduce the accumulation of static electricity.

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- Local/Total ventilation : Use with local exhaust ventilation.
Use only in an area equipped with explosion-proof exhaust ventilation if advised by assessment of the local exposure potential
- Advice on safe handling : Do not get on skin or clothing.
Do not breathe vapours or spray mist.
Do not swallow.
Do not get in eyes.
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment
Non-sparking tools should be used.
Keep container tightly closed.
Keep away from water.
Protect from moisture.
Keep away from heat and sources of ignition.
Take precautionary measures against static discharges.
Take care to prevent spills, waste and minimize release to the environment.
- Hygiene measures : Ensure that eye flushing systems and safety showers are located close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use.

7.2 Conditions for safe storage, including any incompatibilities

- Requirements for storage areas and containers : Keep in properly labelled containers. Store locked up. Keep tightly closed. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations. Keep away from heat and sources of ignition.
- Advice on common storage : Do not store with the following product types:
Strong oxidizing agents
Organic peroxides
Flammable solids
Pyrophoric liquids
Pyrophoric solids
Self-heating substances and mixtures
Substances and mixtures, which in contact with water, emit flammable gases
Explosives
Gases

7.3 Specific end use(s)

- Specific use(s) : These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions.
For further information regarding the use of silicones / organic oils in consumer aerosol applications, please refer to the guidance document regarding the use of these type of materials in consumer aerosol applications that has been developed by the silicone industry (www.SEHSC.com) or contact the Dow Chemical customer service group.

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Toluene	108-88-3	STEL	100 ppm 384 mg/m ³	AL OEL
Further information	skin			
		TWA 8 hr	50 ppm 192 mg/m ³	AL OEL
Further information	skin			
		TWA	50 ppm 192 mg/m ³	2006/15/EC
Further information	Indicative, Identifies the possibility of significant uptake through the skin			
		STEL	100 ppm 384 mg/m ³	2006/15/EC
Further information	Indicative, Identifies the possibility of significant uptake through the skin			
Methyltrimethoxysilane	1185-55-3	TWA	7,5 ppm	DCC OEL

Occupational exposure limits of decomposition products

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Methanol	67-56-1	TWA 8 hr	200 ppm 260 mg/m ³	AL OEL
Further information	skin			
		TWA	200 ppm 260 mg/m ³	2006/15/EC
Further information	Indicative, Identifies the possibility of significant uptake through the skin			

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
Butan-1-ol	Workers	Inhalation	Long-term local effects	310 mg/m ³
	Consumers	Ingestion	Long-term systemic effects	3,125 mg/kg bw/day
	Consumers	Inhalation	Long-term local effects	55 mg/m ³
Toluene	Workers	Inhalation	Acute systemic effects	384 mg/m ³
	Workers	Inhalation	Acute local effects	384 mg/m ³
	Workers	Skin contact	Long-term systemic effects	384 mg/kg bw/day
	Workers	Inhalation	Long-term systemic effects	192 mg/m ³
	Workers	Inhalation	Long-term local effects	192 mg/m ³

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	Consumers	Inhalation	Acute systemic effects	226 mg/m ³
	Consumers	Inhalation	Acute local effects	226 mg/m ³
	Consumers	Skin contact	Long-term systemic effects	226 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	56,5 mg/m ³
	Consumers	Ingestion	Long-term systemic effects	8,13 mg/kg bw/day
	Consumers	Inhalation	Long-term local effects	56,5 mg/m ³
Methyltrimethoxysilane	Workers	Skin contact	Acute systemic effects	0,38 mg/kg bw/day
	Workers	Inhalation	Acute systemic effects	25,6 mg/m ³
	Workers	Skin contact	Long-term systemic effects	0,38 mg/kg bw/day
	Workers	Inhalation	Long-term systemic effects	25,6 mg/m ³
	Consumers	Skin contact	Acute systemic effects	0,3 mg/kg bw/day
	Consumers	Inhalation	Acute systemic effects	6,25 mg/m ³
	Consumers	Ingestion	Long-term systemic effects	0,26 mg/kg bw/day
	Consumers	Skin contact	Long-term systemic effects	0,3 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	6,25 mg/m ³
	Consumers	Ingestion	Acute systemic effects	0,26 mg/kg bw/day

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
Butan-1-ol	Fresh water	0,082 mg/l
	Marine water	0,008 mg/l
	Intermittent use/release	2,25 mg/l
	Sewage treatment plant	2476 mg/l
	Fresh water sediment	0,178 mg/kg
	Marine sediment	0,018 mg/kg
	Soil	0,015 mg/kg
Toluene	Fresh water	0,68 mg/l
	Marine water	0,68 mg/l
	Intermittent use/release	0,68 mg/l

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	Sewage treatment plant	13,61 mg/l
	Fresh water sediment	16,39 mg/kg
	Marine sediment	16,39 mg/kg
	Soil	2,89 mg/kg
Methyltrimethoxysilane	Fresh water	>= 1,3 mg/l
	Marine water	>= 0,13 mg/l
	Fresh water sediment	>= 1,1 mg/kg
	Marine sediment	>= 0,11 mg/kg
	Soil	>= 0,17 mg/kg
	Sewage treatment plant	> 6,9 mg/l

8.2 Exposure controls

Engineering measures

Processing may form hazardous compounds (see section 10).

Minimize workplace exposure concentrations.

Use only in an area equipped with explosion-proof exhaust ventilation if advised by assessment of the local exposure potential

Use with local exhaust ventilation.

Personal protective equipment

Eye protection : Wear the following personal protective equipment:
Chemical resistant goggles must be worn.
If splashes are likely to occur, wear:
Face-shield

Hand protection

Material : Chemical-resistant gloves

Remarks : Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Take note that the product is flammable, which may impact the selection of hand protection. Wash hands before breaks and at the end of workday.

Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.
Wear the following personal protective equipment:
Flame retardant antistatic protective clothing, unless assess-

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ment demonstrates that the risk of explosive atmospheres or flash fires is low
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

Filter type : Self-contained breathing apparatus

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : liquid

Colour : colourless

Odour : aromatic

Odour Threshold : No data available

pH : No data available

Melting point/freezing point : No data available

Initial boiling point and boiling range : > 70 °C

Flash point : 8 °C
Method: closed cup

Evaporation rate : No data available

Flammability (solid, gas) : Not applicable

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Vapour pressure : No data available

Relative vapour density : No data available

Relative density : 0,95

Solubility(ies)
Water solubility : No data available

Partition coefficient: n-octanol/water : No data available

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Auto-ignition temperature : No data available
Decomposition temperature : No data available
Viscosity
 Viscosity, kinematic : 200 cSt (25 °C)

Explosive properties : Not explosive
Oxidizing properties : The substance or mixture is not classified as oxidizing.

9.2 Other information

Molecular weight : No data available
Particle size : Not applicable
Self-ignition : The substance or mixture is not classified as pyrophoric. The substance or mixture is not classified as self heating.

SECTION 10: Stability and reactivity

10.1 Reactivity

Not classified as a reactivity hazard.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : Highly flammable liquid and vapour.
Vapours may form explosive mixture with air.
Can react with strong oxidizing agents.
When heated to temperatures above 150 °C (300 °F) in the presence of air, product can form formaldehyde vapours.
Safe handling conditions may be maintained by keeping vapour concentrations within the occupational exposure limit for formaldehyde.
Hazardous decomposition products will be formed upon contact with water or humid air.
Hazardous decomposition products will be formed at elevated temperatures.

10.4 Conditions to avoid

Conditions to avoid : Exposure to moisture
Handling operations that can promote accumulation of static charges.
Heat, flames and sparks.

10.5 Incompatible materials

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Materials to avoid : Oxidizing agents
Water

10.6 Hazardous decomposition products

Contact with water or humid air : Methanol

Thermal decomposition : Formaldehyde

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Information on likely routes of exposure : Inhalation
Skin contact
Ingestion
Eye contact

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity : Acute toxicity estimate: > 2.000 mg/kg
Method: Calculation method

Components:

Toluene:

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg

Acute inhalation toxicity : LC50 (Rat): 28,1 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rabbit): > 5.000 mg/kg

Butan-1-ol:

Acute oral toxicity : LD50 (Rat): 790 mg/kg

Acute inhalation toxicity : LC0 (Rat): > 17,76 mg/l
Exposure time: 4 h
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): 3.430 mg/kg

Methyltrimethoxysilane:

Acute oral toxicity : LD50 (Rat): 12.3 ml/kg
Assessment: The substance or mixture has no acute oral toxicity
Remarks: Information taken from reference works and the

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literature.

Acute inhalation toxicity : LC50 (Rat): > 42,1 mg/l
Exposure time: 6 h
Test atmosphere: vapour
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: On basis of test data.

Acute dermal toxicity : LD50 (Rabbit): > 9.500 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: On basis of test data.

Skin corrosion/irritation

Causes skin irritation.

Components:

Toluene:

Species: Rabbit
Method: Directive 67/548/EEC, Annex V, B.4.
Result: Skin irritation

Butan-1-ol:

Species: Rabbit
Result: Skin irritation

Methyltrimethoxysilane:

Species: Rabbit
Result: No skin irritation
Remarks: On basis of test data.

Serious eye damage/eye irritation

Causes serious eye damage.

Components:

Toluene:

Species: Rabbit
Method: OECD Test Guideline 405
Result: No eye irritation

Butan-1-ol:

Species: Rabbit
Method: OECD Test Guideline 405
Result: Irreversible effects on the eye

Methyltrimethoxysilane:

Species: Rabbit
Result: No eye irritation

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Remarks: On basis of test data.

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified based on available information.

Components:

Toluene:

Test Type: Maximisation Test
Exposure routes: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: negative

Butan-1-ol:

Test Type: Maximisation Test
Exposure routes: Skin contact
Species: Guinea pig
Result: negative
Remarks: Based on data from similar materials

Methyltrimethoxysilane:

Assessment: Probability or evidence of low to moderate skin sensitisation rate in humans

Test Type: Buehler Test
Species: Guinea pig
Result: positive
Remarks: On basis of test data.

Germ cell mutagenicity

Not classified based on available information.

Components:

Toluene:

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Result: negative

Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Genotoxicity in vivo : Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
Species: Mouse
Application Route: Ingestion
Result: negative

Butan-1-ol:

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Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo
cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Method: OECD Test Guideline 474
Result: negative

Methyltrimethoxysilane:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
Remarks: On basis of test data.

Test Type: Mutagenicity (in vitro mammalian cytogenetic test)
Result: positive
Remarks: On basis of test data.

Test Type: Chromosome aberration test in vitro
Result: positive
Remarks: On basis of test data.

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo
cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Result: negative
Remarks: On basis of test data.

Germ cell mutagenicity- Assessment : Animal testing did not show any mutagenic effects.

Carcinogenicity

Not classified based on available information.

Components:

Toluene:

Species: Rat
Application Route: inhalation (vapour)
Exposure time: 24 Months
Result: negative

Reproductive toxicity

Suspected of damaging the unborn child.

Components:

Toluene:

Effects on fertility : Test Type: One-generation reproduction toxicity study
Species: Rat
Application Route: inhalation (vapour)

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Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: inhalation (vapour)
Result: positive

Reproductive toxicity - Assessment : Some evidence of adverse effects on development, based on animal experiments.

Butan-1-ol:

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: inhalation (vapour)
Method: OECD Test Guideline 416
Result: negative
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: Ingestion
Result: negative

Methyltrimethoxysilane:

Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat, male and female
Application Route: Ingestion
Symptoms: No effects on fertility
Remarks: On basis of test data.

Effects on foetal development : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat, male and female
Application Route: Ingestion
Symptoms: No effects on foetal development
Remarks: On basis of test data.

Reproductive toxicity - Assessment : No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

STOT - single exposure

May cause drowsiness or dizziness.

Components:

Toluene:

Assessment: May cause drowsiness or dizziness.

Butan-1-ol:

Assessment: May cause respiratory irritation., May cause drowsiness or dizziness.

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STOT - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Components:

Toluene:

Target Organs: Central nervous system

Assessment: May cause damage to organs through prolonged or repeated exposure.

Methyltrimethoxysilane:

Exposure routes: inhalation (vapour)

Assessment: No significant health effects observed in animals at concentrations of 1 mg/l/6h/d or less.

Exposure routes: Ingestion

Assessment: No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.

Repeated dose toxicity

Components:

Toluene:

Species: Rat

LOAEL: 1,875 mg/l

Application Route: inhalation (vapour)

Exposure time: 6 Months

Butan-1-ol:

Species: Rat

NOAEL: 125 mg/kg

Application Route: Ingestion

Exposure time: 13 Weeks

Methyltrimethoxysilane:

Species: Rat

Application Route: inhalation (vapour)

Remarks: On basis of test data.

Species: Rat

Application Route: Ingestion

Remarks: On basis of test data.

Aspiration toxicity

Not classified based on available information.

Components:

Toluene:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

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Experience with human exposure

Components:

Toluene:

Inhalation : Target Organs: Central nervous system
Symptoms: Neurological disorders, Fatigue, Vertigo

SECTION 12: Ecological information

12.1 Toxicity

Components:

Toluene:

Toxicity to fish : LC50 (Oncorhynchus kisutch (coho salmon)): 5,5 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Ceriodaphnia dubia (water flea)): 3,78 mg/l
Exposure time: 48 h

Toxicity to algae : NOEC (Skeletonema costatum (marine diatom)): 10 mg/l
Exposure time: 72 h

Toxicity to microorganisms : EC50 (Nitrosomonas sp.): 84 mg/l
Exposure time: 24 h

Toxicity to fish (Chronic toxicity) : NOEC: 1,39 mg/l
Exposure time: 40 d
Species: Oncorhynchus kisutch (coho salmon)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 1 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

NOEC: 0,74 mg/l
Exposure time: 7 d
Species: Ceriodaphnia dubia (water flea)

Butan-1-ol:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 1.376 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1.328 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae : ErC50 (Pseudokirchneriella subcapitata (green algae)): 225 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 201

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Toxicity to microorganisms : EC50 (Pseudomonas putida): 4.390 mg/l
Exposure time: 17 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 4,1 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211

Methyltrimethoxysilane:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 110 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia sp. (water flea)): > 122 mg/l
Exposure time: 48 h

Toxicity to algae : ErC50 (Pseudokirchneriella subcapitata (green algae)): > 120 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to microorganisms : EC50 : > 100 mg/l
Method: OECD Test Guideline 209

12.2 Persistence and degradability

Components:

Toluene:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 86 %
Exposure time: 20 d

Butan-1-ol:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 92 %
Exposure time: 20 d

12.3 Bioaccumulative potential

Components:

Toluene:

Bioaccumulation : Species: Leuciscus idus (Golden orfe)
Bioconcentration factor (BCF): 90

Partition coefficient: n-octanol/water : log Pow: 2,73

Butan-1-ol:

Partition coefficient: n-octanol/water : log Pow: 1

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Methyltrimethoxysilane:

Partition coefficient: n-octanol/water : log Pow: -2,36

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Not relevant

12.6 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Dispose of in accordance with local regulations. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal. Empty containers retain residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death. If not otherwise specified: Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number

ADN : UN 1993
ADR : UN 1993
RID : UN 1993
IMDG : UN 1993
IATA : UN 1993

14.2 UN proper shipping name

ADN : FLAMMABLE LIQUID, N.O.S.
(Toluene, Methyltrimethoxysilane)
ADR : FLAMMABLE LIQUID, N.O.S.
(Toluene, Methyltrimethoxysilane)
RID : FLAMMABLE LIQUID, N.O.S.
(Toluene, Methyltrimethoxysilane)
IMDG : FLAMMABLE LIQUID, N.O.S.
(Toluene, Methyltrimethoxysilane)

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IATA : Flammable liquid, n.o.s.
(Toluene, Methyltrimethoxysilane)

14.3 Transport hazard class(es)

ADN : 3
ADR : 3
RID : 3
IMDG : 3
IATA : 3

14.4 Packing group

ADN
Packing group : II
Classification Code : F1
Hazard Identification Number : 33
Labels : 3

ADR
Packing group : II
Classification Code : F1
Hazard Identification Number : 33
Labels : 3
Tunnel restriction code : (D/E)

RID
Packing group : II
Classification Code : F1
Hazard Identification Number : 33
Labels : 3

IMDG
Packing group : II
Labels : 3
EmS Code : F-E, S-E

IATA (Cargo)
Packing instruction (cargo aircraft) : 364
Packing instruction (LQ) : Y341
Packing group : II
Labels : Flammable Liquids

IATA (Passenger)
Packing instruction (passenger aircraft) : 353
Packing instruction (LQ) : Y341
Packing group : II
Labels : Flammable Liquids

14.5 Environmental hazards

ADN
Environmentally hazardous : no

ADR
Environmentally hazardous : no

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RID

Environmentally hazardous : no

IMDG

Marine pollutant : no

14.6 Special precautions for user

Not applicable

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Remarks : Not applicable for product as supplied.

SECTION 15: Regulatory information

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

Other regulations:

Decision of Council of Ministers No. 488 of 29.6.2016 "On the classification, packaging and labelling of chemicals"

Decision of Ministerial Council No. 520 of 6.8.2014 on the approval of the Regulation "On the protection of safety and health of employees from risks related to carcinogens and mutagens at work"

Decision No. 522 of 6.8.2014 on the approval of the Regulation "On the protection of safety and health of employees from risks related to chemical agents at work"

The components of this product are reported in the following inventories:

- REACH : For purchases from Dow Chemical EU legal entities, all ingredients are currently pre/registered or exempt under REACH. Please refer to section 1 for recommended uses. For purchases from non-EU Dow Chemical legal entities with the intention to export into EEA please contact your DC representative/local office.
- TSCA : All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.
- IECSC : All ingredients listed or exempt.
- KECI : All ingredients listed, exempt or notified.
- PICCS : All ingredients listed or exempt.
- DSL : All chemical substances in this product comply with the CEPA 1999 and NSNR and are on or exempt from listing on the Canadian Domestic Substances List (DSL).
- ENCS/ISHL : Some components are not listed or not identified on ENCS/ISHL.
- TCSI : All ingredients listed or exempt.

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SECTION 16: Other information

Full text of H-Statements

H225 : Highly flammable liquid and vapour.
H226 : Flammable liquid and vapour.
H302 : Harmful if swallowed.
H304 : May be fatal if swallowed and enters airways.
H315 : Causes skin irritation.
H317 : May cause an allergic skin reaction.
H318 : Causes serious eye damage.
H335 : May cause respiratory irritation.
H336 : May cause drowsiness or dizziness.
H361d : Suspected of damaging the unborn child.
H373 : May cause damage to organs through prolonged or repeated exposure.
H412 : Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox. : Acute toxicity
Aquatic Chronic : Chronic aquatic toxicity
Asp. Tox. : Aspiration hazard
Eye Dam. : Serious eye damage
Flam. Liq. : Flammable liquids
Repr. : Reproductive toxicity
Skin Irrit. : Skin irritation
Skin Sens. : Skin sensitisation
STOT RE : Specific target organ toxicity - repeated exposure
STOT SE : Specific target organ toxicity - single exposure
2006/15/EC : Europe. Indicative occupational exposure limit values
AL OEL : Albania. Indicative Occupational Exposure Limits
DCC OEL : Dow Chemical Guide
2006/15/EC / TWA : Limit Value - eight hours
2006/15/EC / STEL : Short term exposure limit
AL OEL / TWA 8 hr : Exposure limit values - 8 hours
AL OEL / STEL : Exposure limit values - short term
DCC OEL / TWA : Time weighted average

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisa-

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tion for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Further information

Sources of key data used to compile the Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Classification of the mixture:

Flam. Liq. 2	H225
Skin Irrit. 2	H315
Eye Dam. 1	H318
Skin Sens. 1	H317
Repr. 2	H361d
STOT SE 3	H336
STOT RE 2	H373
Aquatic Chronic 3	H412

Classification procedure:

Based on product data or assessment
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

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 is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

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