



SAFETY DATA SHEET

DOW DEUTSCHLAND ANLAGENGESELLSCHAFT MBH

Safety Data Sheet according to Reg. (EU) No 2015/830

Product name: DOWSIL™ Primer-C

Revision Date: 17.09.2018

Version: 1.0

Date of last issue: -

Print Date: 20.09.2018

DOW DEUTSCHLAND ANLAGENGESELLSCHAFT MBH encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product name: DOWSIL™ Primer-C

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

Identified uses: Adhesive, binding agents

1.3 Details of the supplier of the safety data sheet

COMPANY IDENTIFICATION

DOW DEUTSCHLAND ANLAGENGESELLSCHAFT MBH

AM KRONBERGER HANG 4

65824 SCHWALBACH

GERMANY

Customer Information Number:

(31) 115 67 2626

SDSQuestion@dow.com

1.4 EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: 00 49 4146 91 2333

Local Emergency Contact: 0049 4141 3679

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008:

Flammable liquids - Category 2 - H225

Skin irritation - Category 2 - H315

Eye irritation - Category 2 - H319

Specific target organ toxicity - single exposure - Category 3 - H336

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008:

Hazard pictograms



Signal word: DANGER

Hazard statements

H225 Highly flammable liquid and vapour.
 H315 Causes skin irritation.
 H319 Causes serious eye irritation.
 H336 May cause drowsiness or dizziness.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.
 No smoking.
 P233 Keep container tightly closed.
 P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
 P264 Wash skin thoroughly after handling.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
 P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Contains ethyl acetate

2.3 Other hazards

Static-accumulating flammable liquid.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Silicone in solvent

3.2 Mixtures

This product is a mixture.

CASRN / EC-No. / Index-No.	REACH Registration Number	Concentration	Component	Classification: REGULATION (EC) No 1272/2008
CASRN 141-78-6 EC-No. 205-500-4 Index-No. 607-022-00-5	01-2119475103-46	>= 78,0 - <= 96,0 %	ethyl acetate	Flam. Liq. - 2 - H225 Eye Irrit. - 2 - H319 STOT SE - 3 - H336

CASRN 26936-30-1 EC-No. Not available Index-No. –	–	>= 4,0 - <= 6,0 %	Methyl methacrylate, 3-(trimethoxysilyl)propyl methacrylate polymer	Skin Irrit. - 2 - H315 Eye Irrit. - 2 - H319
CASRN 100-41-4 EC-No. 202-849-4 Index-No. 601-023-00-4	01-2119489370-35	>= 2,6 - <= 3,5 %	Ethylbenzene	Flam. Liq. - 2 - H225 Acute Tox. - 4 - H332 STOT RE - 2 - H373 Asp. Tox. - 1 - H304 Aquatic Chronic - 3 - H412
CASRN 1330-20-7 EC-No. 215-535-7 Index-No. 601-022-00-9	01-2119488216-32	>= 2,6 - <= 3,5 %	Xylene	Flam. Liq. - 3 - H226 Acute Tox. - 4 - H332 Acute Tox. - 4 - H312 Skin Irrit. - 2 - H315 Eye Irrit. - 2 - H319 STOT SE - 3 - H335 Asp. Tox. - 1 - H304 Aquatic Chronic - 3 - H412
CASRN 108-94-1 EC-No. 203-631-1 Index-No. 606-010-00-7	01-2119453616-35	>= 0,9 - <= 1,2 %	cyclohexanone	Flam. Liq. - 3 - H226 Acute Tox. - 4 - H302 Acute Tox. - 4 - H332 Acute Tox. - 3 - H311 Skin Irrit. - 2 - H315 Eye Dam. - 1 - H318
CASRN 128903-20-8 EC-No. Not available Index-No. –	–	<= 0,1 %	3,4-Dicyano-3,4-dimethylhexane	Repr. - 2 - H361 Aquatic Chronic - 3 - H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General advice:

First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

Skin contact: Wash off with plenty of water.

Eye contact: Immediately flush eyes with water; remove contact lenses, if present, after the first 5 minutes, then continue flushing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.

Ingestion: Do not induce vomiting. Call a physician and/or transport to emergency facility immediately.

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

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician: Maintain adequate ventilation and oxygenation of the patient. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. The decision of whether to induce vomiting or not should be made by a physician. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Skin contact may aggravate preexisting dermatitis.

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 Do not use direct water stream.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products: Carbon oxides Silicon oxides Formaldehyde

Unusual Fire and Explosion Hazards: Flash back possible over considerable distance. Exposure to combustion products may be a hazard to health. Vapours may form explosive mixtures with air.

5.3 Advice for firefighters

Fire Fighting Procedures: Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Do not use a solid water stream as it may scatter and spread fire.

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.

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

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures: 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: Do not release the product to the aquatic environment above defined regulatory levels. 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 materials for containment and 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. Clean up remaining materials from spill with suitable absorbant. 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. For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, 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: Do not get on skin or clothing. Do not breathe vapours or spray mist. Do not swallow. Do not get in eyes. Keep container tightly closed. 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. Non-sparking tools should be used. Handle in accordance with good industrial hygiene and safety practice.

Use with local exhaust ventilation. Use only in an area equipped with explosion proof exhaust ventilation. 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. Ground and bond container and receiving equipment.

7.2 Conditions for safe storage, including any incompatibilities: 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.

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. Unsuitable materials for containers: None known.

Storage class according to TRGS 510: Flammable liquids

7.3 Specific end use(s): See the technical data sheet on this product for further information.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Component	Regulation	Type of listing	Value/Notation
ethyl acetate	ACGIH	TWA	400 ppm
	Dow IHG	TWA	150 ppm
	Dow IHG	STEL	300 ppm
	DE TRGS 900	AGW	730 mg/m ³ 200 ppm
	2017/164/EU	STEL	1 468 mg/m ³ 400 ppm
	2017/164/EU	TWA	734 mg/m ³ 200 ppm
Ethylbenzene	ACGIH	TWA	20 ppm
	2000/39/EC	TWA	442 mg/m ³ 100 ppm
	2000/39/EC	STEL	884 mg/m ³ 200 ppm
	2000/39/EC	TWA	SKIN
	2000/39/EC	STEL	SKIN
	DE TRGS 900	AGW	SKIN
	DE TRGS 900	AGW	88 mg/m ³ 20 ppm
Xylene	ACGIH	TWA	100 ppm
	ACGIH	STEL	150 ppm
	2000/39/EC	TWA	221 mg/m ³ 50 ppm
	2000/39/EC	STEL	442 mg/m ³ 100 ppm
	2000/39/EC	TWA	SKIN
	2000/39/EC	STEL	SKIN
	DE TRGS 900	AGW	440 mg/m ³ 100 ppm
	DE TRGS 900	AGW	SKIN
cyclohexanone	ACGIH	TWA	20 ppm
	ACGIH	STEL	50 ppm
	ACGIH	TWA	SKIN
	ACGIH	STEL	SKIN
	Dow IHG	TWA	7,5 ppm
	Dow IHG	TWA	SKIN
	Dow IHG	STEL	15 ppm
	Dow IHG	STEL	SKIN
	2000/39/EC	TWA	40,8 mg/m ³ 10 ppm
	2000/39/EC	STEL	81,6 mg/m ³ 20 ppm
	2000/39/EC	TWA	SKIN
	2000/39/EC	STEL	SKIN
	DE TRGS 900	AGW	SKIN
	DE TRGS 900	AGW	80 mg/m ³ 20 ppm
	methanol	ACGIH	TWA
ACGIH		STEL	250 ppm
ACGIH		TWA	SKIN
ACGIH		STEL	SKIN
2006/15/EC		TWA	260 mg/m ³ 200 ppm

2006/15/EC	TWA	SKIN
DE TRGS 900	AGW	270 mg/m3 200 ppm
DE TRGS 900	AGW	SKIN

The following substance(s), which have Occupational Exposure Limit(s) (OEL), may be formed during handling or processing:
Methanol.

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
Ethylbenzene	100-41-4	mandelic acid + phenylglyoxylic acid	Urine	Immediately after exposure or after working hours	250 mg/g Creatinine	TRGS 903
		Sum of mandelic acid and phenylglyoxylic acid	Urine	End of shift (As soon as possible after exposure ceases)	0.15 g/g creatinine	ACGIH BEI
Xylene	1330-20-7	xylene	Blood	Immediately after exposure or after working hours	1,5 mg/l	TRGS 903
		Methylhippuric acids	Urine	End of shift (As soon as possible after exposure ceases)	1.5 g/g creatinine	ACGIH BEI
cyclohexanone	108-94-1	1,2-Cyclohexanediol	Urine	End of shift at end of workweek	80 mg/l	ACGIH BEI
		Cyclohexanol	Urine	End of shift (As soon as possible after exposure ceases)	8 mg/l	ACGIH BEI
methanol	67-56-1	Methanol	Urine	Immediately after	30 mg/l	TRGS 903

		exposure or after working hours, In case of long-term exposure: after more than one shift				
	Methanol	Urine	End of shift (As soon as possible after exposure ceases)	15 mg/l	ACGIH BEI	

Derived No Effect Level

ethyl acetate

Workers

<i>Acute systemic effects</i>		<i>Acute local effects</i>		<i>Long-term systemic effects</i>		<i>Long-term local effects</i>	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation
n.a.	1468 mg/m3	n.a.	1468 mg/m3	63 mg/kg bw/day	734 mg/m3	n.a.	734 mg/m3

Consumers

<i>Acute systemic effects</i>			<i>Acute local effects</i>		<i>Long-term systemic effects</i>			<i>Long-term local effects</i>	
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation
n.a.	734 mg/m3	n.a.	n.a.	734 mg/m3	37 mg/kg bw/day	367 mg/m3	4,5 mg/kg bw/day	n.a.	367 mg/m3

Ethylbenzene

Workers

<i>Acute systemic effects</i>		<i>Acute local effects</i>		<i>Long-term systemic effects</i>		<i>Long-term local effects</i>	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation
n.a.	n.a.	n.a.	293 mg/m3	180 mg/kg bw/day	77 mg/m3	n.a.	n.a.

Consumers

<i>Acute systemic effects</i>			<i>Acute local effects</i>		<i>Long-term systemic effects</i>			<i>Long-term local effects</i>	
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	15 mg/m3	1,6 mg/kg bw/day	n.a.	n.a.

cyclohexanone

Workers

<i>Acute systemic effects</i>		<i>Acute local effects</i>		<i>Long-term systemic effects</i>		<i>Long-term local effects</i>	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation
4 mg/kg bw/day	80 mg/m ³	n.a.	80 mg/m ³	4 mg/kg bw/day	40 mg/m ³	n.a.	40 mg/m ³

Consumers

<i>Acute systemic effects</i>			<i>Acute local effects</i>		<i>Long-term systemic effects</i>			<i>Long-term local effects</i>	
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation
1 mg/kg bw/day	20 mg/m ³	1,5 mg/kg bw/day	n.a.	40 mg/m ³	1 mg/kg bw/day	10 mg/m ³	1,5 mg/kg bw/day	n.a.	20 mg/m ³

Predicted No Effect Concentration

ethyl acetate

Compartment	PNEC
Fresh water	0,26 mg/l
Marine water	0,026 mg/l
Intermittent use/release	1,65 mg/l
Sewage treatment plant	650 mg/l
Fresh water sediment	1,25 mg/kg
Marine sediment	0,125 mg/kg
Soil	0,24 mg/kg
Oral (Secondary Poisoning)	200 mg/kg food

Ethylbenzene

Compartment	PNEC
Fresh water	0,1 mg/l
Marine water	0,01 mg/l
Intermittent use/release	0,1 mg/l
Sewage treatment plant	9,6 mg/l
Fresh water sediment	13,7 mg/kg
Soil	2,68 mg/kg
Oral (Secondary Poisoning)	0,02 mg/kg food

Xylene

Compartment	PNEC
Fresh water	0,327 mg/l
Marine water	0,327 mg/l
Intermittent use/release	0,327 mg/l
Sewage treatment plant	6,58 mg/l
Fresh water sediment	12,46 mg/kg
Marine sediment	12,46 mg/kg
Soil	2,31 mg/kg

cyclohexanone

Compartment	PNEC
Fresh water	0,0329 mg/l
Marine water	0,00329 mg/l
Intermittent use/release	0,329 mg/l
Sewage treatment plant	10 mg/l
Fresh water sediment	0,168 mg/kg
Marine sediment	0,0168 mg/kg
Soil	0,0143 mg/kg

8.2 Exposure controls

Engineering controls: Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Use chemical goggles. Chemical goggles should be consistent with EN 166 or equivalent. If exposure causes eye discomfort, use a full-face respirator (meeting standard EN 136) with organic vapor cartridge (meeting standard EN 14387).

Skin protection

Hand protection: Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Butyl rubber. Chlorinated polyethylene. Neoprene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl alcohol ("PVA"). Examples of acceptable glove barrier materials include: Natural rubber ("latex"). Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). Avoid gloves made of: Viton. When prolonged or frequently repeated contact may occur, a glove with a protection class of 4 or higher (breakthrough time greater than 120 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 1 or higher (breakthrough time greater than 10 minutes according to EN 374) is recommended. Glove thickness alone is not a good indicator of the level of protection a glove provides against a chemical substance as this level of protection is also highly dependent on the specific composition of the material that the glove is fabricated from. The thickness of the glove must, depending on model and type of material, generally be more than 0.35 mm to offer sufficient protection for prolonged and frequent contact with the substance. As an exception to this general rule it is known that multilayer laminate gloves may offer prolonged protection at thicknesses less than 0.35 mm. Other glove materials with a thickness of less than 0.35 mm may offer sufficient protection when only brief contact is expected. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use an approved respirator. When respiratory protection is required, use an approved positive-pressure self-contained breathing apparatus or positive-

pressure airline with auxiliary self-contained air supply. For emergency conditions, use an approved positive-pressure self-contained breathing apparatus.

Environmental exposure controls

See SECTION 7: Handling and storage and SECTION 13: Disposal considerations for measures to prevent excessive environmental exposure during use and waste disposal.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance

Physical state	liquid
Color	colourless
Odor	solvent-like
Odor Threshold	No data available
pH	No data available
Melting point/range	No data available
Freezing point	No data available
Boiling point (760 mmHg)	>= 75 °C
Flash point	Tag closed cup -4 °C
Evaporation Rate (Butyl Acetate = 1)	No data available
Flammability (solid, gas)	Not applicable
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapor Pressure	No data available
Relative Vapor Density (air = 1)	No data available
Relative Density (water = 1)	0,9
Water solubility	No data available
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Kinematic Viscosity	1 cSt at 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

NOTE: The physical data presented above are typical values and should not be construed as a specification.

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: Can react with strong oxidizing agents. Vapours may form explosive mixture with air. Highly flammable liquid and vapour.

10.4 Conditions to avoid: Heat, flames and sparks.

10.5 Incompatible materials: Oxidizing agents

10.6 Hazardous decomposition products: Methanol.

SECTION 11: TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

11.1 Information on toxicological effects**Acute toxicity****Acute oral toxicity**

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

As product: Single dose oral LD50 has not been determined.

Based on information for component(s):

LD50, Rat, > 5 000 mg/kg Estimated.

Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product: The dermal LD50 has not been determined.

Based on information for component(s):

LD50, > 5 000 mg/kg Estimated.

Acute inhalation toxicity

Prolonged excessive exposure may cause adverse effects. Symptoms may include headache, dizziness and drowsiness, progressing to incoordination and unconsciousness.

May cause respiratory irritation and central nervous system depression.

As product: The LC50 has not been determined.

Skin corrosion/irritation

Brief contact may cause skin irritation with local redness.

May cause drying and flaking of the skin.

Serious eye damage/eye irritation

May cause eye irritation.

May cause corneal injury.

Vapor may cause eye irritation experienced as mild discomfort and redness. In humans, eye irritation resulted from brief (minutes) exposure to cyclohexanone vapor concentration of 50 ppm and above.

Sensitization

For skin sensitization:

For the major component(s):

Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:

No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)

Contains component(s) which are classified as specific target organ toxicant, single exposure, category 3.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Contains component(s) which have been reported to cause effects on the following organs in animals: Respiratory tract.

Liver.

Kidney.

Blood.

Central nervous system.

Lung.

Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed.

Although one early inhalation study on ethylbenzene reported an adverse effect on the testes, recent, more comprehensive studies have not shown this effect.

Xylene is reported to have caused hearing loss in laboratory animals upon exposure to high concentrations; such effects have not been reported in humans.

Carcinogenicity

Ethylbenzene has been shown to cause cancer in laboratory animals.

Teratogenicity

Contains component(s) which caused birth defects in laboratory animals only at doses toxic to the mother. Has been toxic to the fetus in lab animals at doses nontoxic to the mother.

Reproductive toxicity

Cyclohexanone caused reduced growth and survival of offspring in an animal reproduction study.

Dose levels producing this effect also caused central nervous system effects in parental animals. In animal studies, has been shown to interfere with reproduction in males. Effects have been seen only at doses that produced significant toxicity to the parent animals.

Mutagenicity

Contains component(s) which were negative in some in vitro genetic toxicity studies and positive in others. Genetic toxicity studies in animals were negative for component(s) tested.

Aspiration Hazard

Aspiration into the lungs may occur during ingestion or vomiting, causing lung damage or even death due to chemical pneumonia.

COMPONENTS INFLUENCING TOXICOLOGY:**ethyl acetate****Acute inhalation toxicity**

LC50, Rat, 4 Hour, vapour, > 28,6 mg/l

Methyl methacrylate, 3-(trimethoxysilyl)propyl methacrylate polymer**Acute inhalation toxicity**

The LC50 has not been determined.

Ethylbenzene**Acute inhalation toxicity**

LC50, Rat, 4 Hour, vapour, 17,2 mg/l

Xylene**Acute inhalation toxicity**

LC50, Rat, 4 Hour, vapour, 27,5 mg/l

cyclohexanone**Acute inhalation toxicity**

Vapor concentrations are attainable which could be hazardous on single exposure. May cause central nervous system effects. Excessive exposure may cause severe irritation to upper respiratory tract (nose and throat) and lungs.

LC50, Rat, 4 Hour, vapour, > 6,2 mg/l No deaths occurred at this concentration.

3,4-Dicyano-3,4-dimethylhexane**Acute inhalation toxicity**

LC50, Rat, 4 Hour, dust/mist, 8,72 mg/l

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

12.1 Toxicity**ethyl acetate****Acute toxicity to fish**

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

LC50, Pimephales promelas (fathead minnow), 96 Hour, 230 mg/l

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), 24 Hour, 3 090 mg/l, DIN 38412

Acute toxicity to algae/aquatic plants

NOEC, Pseudokirchneriella subcapitata (green algae), 72 Hour, >100 mg/l, OECD Test Guideline 201

Toxicity to bacteria

EC50, Photobacterium phosphoreum, 0,25 Hour, 5 870 mg/l

Chronic toxicity to fish

NOEC, Pimephales promelas (fathead minnow), 32 d, < 9,65 mg/l

Chronic toxicity to aquatic invertebrates

NOEC, Daphnia magna (Water flea), semi-static test, 21 d, number of offspring, 2,4 mg/l

Methyl methacrylate, 3-(trimethoxysilyl)propyl methacrylate polymer**Acute toxicity to fish**

Based on data from similar materials

LC50, Danio rerio (zebra fish), 96 Hour, > 100 mg/l

Not expected to be acutely toxic to aquatic organisms.

Acute toxicity to aquatic invertebrates

Based on data from similar materials

EC50, Daphnia sp. (water flea), 48 Hour, > 100 mg/l

Acute toxicity to algae/aquatic plants

Based on data from similar materials

EC50, Scenedesmus subspicatus, 72 Hour, > 100 mg/l

Ethylbenzene**Acute toxicity to fish**

Material is toxic to aquatic organisms (LC50/EC50/IC50 between 1 and 10 mg/L in the most sensitive species).

LC50, Oncorhynchus mykiss (rainbow trout), semi-static test, 96 Hour, 4,2 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), Static, 48 Hour, 1,8 - 2,4 mg/l

Acute toxicity to algae/aquatic plants

EC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth inhibition (cell density reduction), 3,6 - 4,6 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria

EC50, Bacteria, 16 Hour, > 12 mg/l

Chronic toxicity to aquatic invertebrates

NOEC, Ceriodaphnia dubia (water flea), semi-static test, 7 d, 0,96 mg/l

Toxicity to soil-dwelling organisms

LC50, Eisenia fetida (earthworms), 2 d, survival, 0,047 mg/cm²

Xylene**Acute toxicity to fish**

Material is toxic to aquatic organisms (LC50/EC50/IC50 between 1 and 10 mg/L in the most sensitive species).

LC50, Oncorhynchus mykiss (rainbow trout), semi-static test, 96 Hour, 2,6 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates

IC50, Daphnia magna (Water flea), 24 Hour, 1 - 4,7 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants

ErC50, Pseudokirchneriella subcapitata (algae), Static, 73 Hour, Growth rate, 4,36 mg/l, OECD Test Guideline 201 or Equivalent

NOEC, Pseudokirchneriella subcapitata (green algae), 73 Hour, Growth rate, 0,44 mg/l, OECD Test Guideline 201 or Equivalent

Chronic toxicity to fish

NOEC, Oncorhynchus mykiss (rainbow trout), flow-through, 56 d, mortality, > 1,3 mg/l

cyclohexanone

Acute toxicity to fish

Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

LC50, Leuciscus idus (Golden orfe), static test, 48 Hour, 630 mg/l

LC50, Pimephales promelas (fathead minnow), static test, 96 Hour, 527 - 732 mg/l

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), 24 Hour, 820 mg/l

Acute toxicity to algae/aquatic plants

LOEC, Scenedesmus quadricauda (Green algae), 192 Hour, 370 mg/l, Method Not Specified.

EC50, Desmodesmus subspicatus (green algae), Static, 72 Hour, > 100 mg/l, OECD Test Guideline 201

Toxicity to bacteria

EC50, activated sludge, > 1 000 mg/l, OECD 209 Test

3,4-Dicyano-3,4-dimethylhexane

Acute toxicity to algae/aquatic plants

Based on data from similar materials

EC50, Desmodesmus subspicatus (green algae), 72 Hour, 91,1 mg/l

12.2 Persistence and degradability

ethyl acetate

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

10-day Window: Pass

Biodegradation: 100 %

Exposure time: 28 d

Method: OECD Test Guideline 301D or Equivalent

Methyl methacrylate, 3-(trimethoxysilyl)propyl methacrylate polymer

Biodegradability: No relevant data found.

Ethylbenzene

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

10-day Window: Pass

Biodegradation: 100 %

Exposure time: 6 d

Method: OECD Test Guideline 301E or Equivalent

Xylene

Biodegradability: Material is expected to be readily biodegradable.

10-day Window: Pass

Biodegradation: > 60 %

Exposure time: 10 d

Method: OECD Test Guideline 301F or Equivalent

cyclohexanone

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

10-day Window: Not applicable

Biodegradation: 87 %

Exposure time: 14 d

Method: OECD Test Guideline 301C or Equivalent

10-day Window: Pass

Biodegradation: 90 - 100 %

Exposure time: 28 d

Method: OECD Test Guideline 301F

12.3 Bioaccumulative potential

ethyl acetate

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): 0,68 Measured

Bioconcentration factor (BCF): 30 Fish Measured

Methyl methacrylate, 3-(trimethoxysilyl)propyl methacrylate polymer

Bioaccumulation: No relevant data found.

Ethylbenzene

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): 3,15 Measured

Bioconcentration factor (BCF): 15 Fish Measured

Xylene

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): 3,12 Measured

Bioconcentration factor (BCF): 25,9 Rainbow trout (Salmo gairdneri) Measured

cyclohexanone

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): 0,81 Measured

Bioconcentration factor (BCF): 3,16 Fish

12.4 Mobility in soil

ethyl acetate

Potential for mobility in soil is very high (Koc between 0 and 50).

Partition coefficient (Koc): 3 Estimated.

Methyl methacrylate, 3-(trimethoxysilyl)propyl methacrylate polymer

No relevant data found.

Ethylbenzene

Potential for mobility in soil is low (Koc between 500 and 2000).

Partition coefficient (Koc): 518 Estimated.

Xylene

Potential for mobility in soil is medium (Koc between 150 and 500).

Partition coefficient (Koc): 443 Estimated.

cyclohexanone

Potential for mobility in soil is very high (Koc between 0 and 50).

Partition coefficient (Koc): 15 Estimated.

12.5 Results of PBT and vPvB assessment

ethyl acetate

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Methyl methacrylate, 3-(trimethoxysilyl)propyl methacrylate polymer

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Ethylbenzene

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Xylene

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

cyclohexanone

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

3,4-Dicyano-3,4-dimethylhexane

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

12.6 Other adverse effects

ethyl acetate

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Methyl methacrylate, 3-(trimethoxysilyl)propyl methacrylate polymer

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Ethylbenzene

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Xylene

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

cyclohexanone

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

3,4-Dicyano-3,4-dimethylhexane

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Do not dump into any sewers, on the ground, or into any body of water. This product, when being disposed of in its unused and uncontaminated state should be treated as a hazardous waste according to EC Directive 2008/98/EC. Any disposal practices must be in compliance with all national and provincial laws and any municipal or local by-laws governing hazardous waste. For used, contaminated and residual materials additional evaluations may be required.

The definitive assignment of this material to the appropriate EWC group and thus its proper EWC code will depend on the use that is made of this material. Contact the authorized waste disposal services.

SECTION 14: TRANSPORT INFORMATION

Classification for ROAD and Rail transport (ADR/RID):

- | | |
|-----------------------------------|---|
| 14.1 UN number | UN 1993 |
| 14.2 UN proper shipping name | FLAMMABLE LIQUID, N.O.S.(Ethyl acetate, Ethylbenzene) |
| 14.3 Transport hazard class(es) | 3 |
| 14.4 Packing group | II |
| 14.5 Environmental hazards | Not considered environmentally hazardous based on available data. |
| 14.6 Special precautions for user | Special Provision 640D
Hazard Identification Number: 33 |

Classification for SEA transport (IMO-IMDG):

- | | |
|---|---|
| 14.1 UN number | UN 1993 |
| 14.2 UN proper shipping name | FLAMMABLE LIQUID, N.O.S.(Ethyl acetate, Ethylbenzene) |
| 14.3 Transport hazard class(es) | 3 |
| 14.4 Packing group | II |
| 14.5 Environmental hazards | Not considered as marine pollutant based on available data. |
| 14.6 Special precautions for user | EmS: F-E, S-E |
| 14.7 Transport in bulk according to Annex I or II of MARPOL | Consult IMO regulations before transporting ocean bulk |

**73/78 and the IBC or IGC
Code****Classification for AIR transport (IATA/ICAO):**

14.1 UN number	UN 1993
14.2 UN proper shipping name	Flammable liquid, n.o.s.(Ethyl acetate, Ethylbenzene)
14.3 Transport hazard class(es)	3
14.4 Packing group	II
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	No data available.

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**REACH Regulation (EC) No 1907/2006**

This product contains only components that have been either pre-registered, registered, are exempt from registration, are regarded as registered or are not subject to registration according to Regulation (EC) No. 1907/2006 (REACH)., The aforementioned indications of the REACH registration status are provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. It is the buyer's/user's responsibility to ensure that his/her understanding of the regulatory status of this product is correct.

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

Listed in Regulation: FLAMMABLE LIQUIDS

Number in Regulation: P5c

5 000 t

50 000 t

Wassergefährdungsklasse (Deutschland)

WGK 1: slightly hazardous to water

Further information

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

15.2 Chemical safety assessment

Not applicable

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H361	Suspected of damaging fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure if inhaled.
H412	Harmful to aquatic life with long lasting effects.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) No 1272/2008

Flam. Liq. - 2 - H225 - Based on product data or assessment

Skin Irrit. - 2 - H315 - Calculation method

Eye Irrit. - 2 - H319 - Calculation method

STOT SE - 3 - H336 - Calculation method

Revision

Identification Number: 3243265 / A287 / Issue Date: 17.09.2018 / Version: 1.0

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

2000/39/EC	Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
2006/15/EC	Europe. Indicative occupational exposure limit values
2017/164/EU	Commission Directive (EU) 2017/164 establishing a fourth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC, and amending Commission Directives 91/322/EEC, 2000/39/EC and 2009/161/EU
ACGIH	USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	ACGIH - Biological Exposure Indices (BEI)
AGW	Time Weighted Average
DE TRGS 900	Germany. TRGS 900 - Occupational exposure limit values.

Dow IHG	Dow Industrial Hygiene Guideline
SKIN	Absorbed via skin
STEL	Short term exposure limit
TRGS 903	TRGS 903 - Biological limit values
TWA	Time weighted average
Acute Tox.	Acute toxicity
Aquatic Chronic	Long-term (chronic) aquatic hazard
Asp. Tox.	Aspiration hazard
Eye Dam.	Serious eye damage
Eye Irrit.	Eye irritation
Flam. Liq.	Flammable liquids
Repr.	Reproductive toxicity
Skin Irrit.	Skin irritation
STOT RE	Specific target organ toxicity - repeated exposure
STOT SE	Specific target organ toxicity - single exposure

Full text of other abbreviations

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 Organisation 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; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

DOW DEUTSCHLAND ANLAGENGESELLSCHAFT MBH urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

DE