



SAFETY DATA SHEET

DOW EUROPE GMBH

Safety Data Sheet according to Reg. (EU) 2020/878

Product name: DOWSIL™ TC-5121C LV Thermally Conductive Compound

Revision Date: 13.02.2023

Version: 3.0

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DOW EUROPE GMBH 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™ TC-5121C LV Thermally Conductive Compound

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

Identified uses: Electrical industry and electronics

1.3 Details of the supplier of the safety data sheet

COMPANY IDENTIFICATION

DOW EUROPE GMBH
BACHTOBELSTRASSE 4
8810 HORGEN
SWITZERLAND

Customer Information Number:

31 115 67 2626
SDSQuestion@dow.com

c/o

DOW BENELUX B.V.
HERBERT H.DOWWEG 5
HOEK
4542 NM TERNEUZEN
NETHERLANDS
Telephone: (31) 115 67 2626

1.4 EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: 00 41 447 28 2820

Local Emergency Contact: 00 32 3575 0330

In case of emergency, contact Belgium Poison Center: 070/245.245

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

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

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.2 Label elements

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

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.3 Other hazards

This product contains no substances assessed to be PBT or vPvB at levels of 0.1% or higher.

Endocrine disrupting properties

Environment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Human Health: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Silicone compound

3.2 Mixtures

This product is a mixture.

CASRN / EC-No. / Index-No.	REACH Registration Number	Concentration	Component	Classification: REGULATION (EC) No 1272/2008
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Substances with a workplace exposure limit

CASRN Not available EC-No. Not available Index-No. -	-	>= 89,0 - <= 99,0 %	Vinyl, Methyl, Siloxane modified Zinc Oxide	Not classified Acute toxicity estimate Acute oral toxicity: > 5 000 mg/kg Acute inhalation toxicity: > 5 mg/l, 4 Hour, dust/mist Acute dermal toxicity: > 2 000 mg/kg
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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 and keep comfortable for breathing; consult a physician.

Skin contact: Wash off with plenty of water.

Eye contact: Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

Ingestion: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

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: Metal fume fever symptoms of headache, nausea, chills, cough and fever may be accompanied by leukocytosis, and typically resolve in 24 - 48hr. Treatment includes antipyretics, hydration, oxygen, bronchodilators, and rest. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

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

Unsuitable extinguishing media: None known..

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products: Silicon oxides. Metal oxides. Formaldehyde. Carbon oxides.

Unusual Fire and Explosion Hazards: Exposure to combustion products may be a hazard to health..

5.3 Advice for firefighters

Fire Fighting Procedures: Use water spray to cool unopened containers.. Evacuate area.. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations..

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Remove undamaged containers from fire area if it is safe to do so.

Special protective equipment for firefighters: Wear self-contained breathing apparatus for firefighting if necessary.. Use personal protective equipment..

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures: Follow safe handling advice and personal protective equipment recommendations.

6.2 Environmental precautions: Discharge into the environment must be avoided. Prevent further leakage or spillage if safe to do so. 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: Wipe up or scrape up and contain for salvage or disposal. 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, store recovered material in appropriate container.

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: Take care to prevent spills, waste and minimize release to the environment. Handle in accordance with good industrial hygiene and safety practice. Use only with adequate ventilation. See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

7.2 Conditions for safe storage, including any incompatibilities: Keep in properly labelled containers. Store in accordance with the particular national regulations.

Do not store with the following product types: Strong oxidizing agents.
Unsuitable materials for containers: None known.

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
Vinyl, Methyl, Siloxane modified Zinc Oxide	ACGIH	TWA Respirable particulate matter	2 mg/m ³
	ACGIH	STEL Respirable particulate matter	10 mg/m ³
	BE OEL	TLV 8 hr inhalable fraction	2 mg/m ³
	Further information: Until 31.12.2014: 5 mg/m ³ ; from 1.1.2015: 2 mg/m ³ ; From 1.1.2015; From 1.1.2013		

	BE OEL	TLV 8 hr respirable fraction	5 mg/m3
	Further information: Until 31.12.2014: 5 mg/m3; from 1.1.2015: 2 mg/m3; From 1.1.2015; From 1.1.2013		
	BE OEL	TLV 15 min inhalable fraction	10 mg/m3
	Further information: Until 31.12.2014: 5 mg/m3; from 1.1.2015: 2 mg/m3; From 1.1.2015; From 1.1.2013		
	BE OEL	TLV 8 hr	10 mg/m3
	Further information: Valid until 31.12.2012		
	BE OEL	TLV 8 hr	5 mg/m3
	Further information: Valid until 31.12.2012		
	BE OEL	TLV 15 min	10 mg/m3
	Further information: Valid until 31.12.2012		
	BE OEL	TLV 8 hr respirable fraction	2 mg/m3
	BE OEL	TLV 15 min respirable fraction	10 mg/m3

Recommended monitoring procedures

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with the Occupational Exposure Limits and the adequacy of exposure controls. For some substances biological monitoring may also be appropriate. Validated exposure measurement methods should be applied by a competent person and samples should be analysed by an accredited laboratory.

Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy); European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents); European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents). Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.

National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods.
Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods.
Health and Safety Executive (HSE), United Kingdom: Methods for the Determination of Hazardous Substances.

Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA), Germany.

L'Institut National de Recherche et de Sécurité, (INRS), France.

Derived No Effect Level

Vinyl, Methyl, Siloxane modified Zinc Oxide

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.	n.a.	83 mg/kg bw/day	5 mg/m3	n.a.	0,5 mg/m3

Consumers

<i>Acute systemic effects</i>	<i>Acute local effects</i>	<i>Long-term systemic effects</i>	<i>Long-term local</i>
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						effects			
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	83 mg/kg bw/day	2,5 mg/m3	0,83 mg/kg bw/day	n.a.	n.a.

Predicted No Effect Concentration

Vinyl, Methyl, Siloxane modified Zinc Oxide

Compartment	PNEC
Fresh water	0,0206 mg/l
Marine water	0,0061 mg/l
Sewage treatment plant	0,1 mg/l
Fresh water sediment	1117,8 mg/kg dry weight (d.w.)
Marine sediment	56,5 mg/kg dry weight (d.w.)
Soil	35,6 mg/kg dry weight (d.w.)

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 safety glasses (with side shields). Safety glasses (with side shields) should be consistent with EN 166 or equivalent.

Skin protection

Hand protection: Chemical protective gloves should not be needed when handling this material. Consistent with general hygienic practice for any material, skin contact should be minimized.

Other protection: No precautions other than clean body-covering clothing should be needed.

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. Selection of air-purifying or positive-pressure supplied-air will depend on the specific operation and the potential airborne concentration of the material.

Use the following CE approved air-purifying respirator: Particulate filter, type P2 (meeting standard EN 143).

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

Grease

Color	Greenish yellow
Odor	none
Odor Threshold	No data available
pH	Not applicable
Melting point/freezing point	
Melting point/range	No data available
Freezing point	not determined
Boiling point or initial boiling point and boiling range	
Boiling point (760 mmHg)	Not applicable
Flash point	Seta closed cup >100 °C
Flammability (solid, gas)	Not classified as a flammability hazard
Flammability (liquids)	Not applicable, solid
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapor Pressure	Not applicable
Relative Vapor Density (air = 1)	No data available
Relative Density (water = 1)	4,2
Solubility(ies)	
Water solubility	not determined
Partition coefficient: n-octanol/water	not determined
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Kinematic Viscosity	Not applicable
Particle characteristics	
Particle size	No data available
9.2 Other information	
Molecular weight	No data available
Dynamic Viscosity	Not applicable
Explosive properties	Not explosive
Oxidizing properties	The substance or mixture is not classified as oxidizing.
Self-heating substances	The substance or mixture is not classified as self heating.
Evaporation Rate (Butyl Acetate = 1)	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.

10.4 Conditions to avoid: None known.

10.5 Incompatible materials: Avoid contact with oxidizing materials.

10.6 Hazardous decomposition products:

Decomposition products can include and are not limited to: Formaldehyde.

SECTION 11: TOXICOLOGICAL INFORMATION

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

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure

Eye contact, Skin contact, Ingestion.

Acute toxicity (represents short term exposures with immediate effects - no chronic/delayed effects known unless otherwise noted)

Acute Toxicity Endpoints:

Acute oral toxicity

Information for the Product:

Very low toxicity if swallowed. Swallowing may result in gastrointestinal irritation. May cause nausea and vomiting.

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

Based on information for component(s):
LD50, Rat, > 5 000 mg/kg Estimated.

Information for components:

Vinyl, Methyl, Siloxane modified Zinc Oxide

For similar material(s): LD50, Rat, > 5 000 mg/kg

Acute dermal toxicity

Information for the Product:

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.

Information for components:

Vinyl, Methyl, Siloxane modified Zinc Oxide

For similar material(s): LD50, > 2 000 mg/kg Estimated.

Acute inhalation toxicity

Information for the Product:

Exposure to metal oxide fumes may cause metal fume fever, characterized by influenza-like symptoms. Dust may cause irritation to upper respiratory tract (nose and throat).

LC50, Rat, 4 Hour, dust/mist, > 5 mg/l No deaths occurred at this concentration.

Information for components:

Vinyl, Methyl, Siloxane modified Zinc Oxide

For similar material(s): LC50, Rat, 4 Hour, dust/mist, > 5 mg/l No deaths occurred at this concentration.

Skin corrosion/irritation

Information for the Product:

Based on information for component(s):
Prolonged contact is essentially nonirritating to skin.

Information for components:

Vinyl, Methyl, Siloxane modified Zinc Oxide

For similar material(s):
Prolonged contact is essentially nonirritating to skin.

Serious eye damage/eye irritation

Information for the Product:

Based on information for component(s):
May cause slight temporary eye irritation.
Corneal injury is unlikely.

Information for components:

Vinyl, Methyl, Siloxane modified Zinc Oxide

For similar material(s):
May cause slight temporary eye irritation.
Corneal injury is unlikely.

Sensitization

Information for the Product:

For skin sensitization:
No relevant data found.

For respiratory sensitization:
No relevant data found.

Information for components:

Vinyl, Methyl, Siloxane modified Zinc Oxide

For skin sensitization:
No relevant data found.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)

Information for the Product:

Product test data not available.

Information for components:

Vinyl, Methyl, Siloxane modified Zinc Oxide

Available data are inadequate to determine single exposure specific target organ toxicity.

Aspiration Hazard

Information for the Product:

Based on physical properties, not likely to be an aspiration hazard.

Information for components:

Vinyl, Methyl, Siloxane modified Zinc Oxide

Based on physical properties, not likely to be an aspiration hazard.

Chronic toxicity (represents longer term exposures with repeated dose resulting in chronic/delayed effects - no immediate effects known unless otherwise noted)

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Information for the Product:

Product test data not available.

Information for components:

Vinyl, Methyl, Siloxane modified Zinc Oxide

For similar material(s):
In humans, effects have been reported on the following organs:
Respiratory tract.
In animals, effects have been reported on the following organs:
Lung.

Carcinogenicity

Information for the Product:

Product test data not available.

Information for components:

Vinyl, Methyl, Siloxane modified Zinc Oxide

Available data are inadequate to evaluate carcinogenicity.

Teratogenicity

Information for the Product:

Product test data not available.

Information for components:

Vinyl, Methyl, Siloxane modified Zinc Oxide

No relevant data found.

Reproductive toxicity

Information for the Product:

Product test data not available.

Information for components:

Vinyl, Methyl, Siloxane modified Zinc Oxide

For similar material(s): In animal studies, did not interfere with reproduction. In animal studies, did not interfere with fertility.

Mutagenicity

Information for the Product:

Product test data not available.

Information for components:

Vinyl, Methyl, Siloxane modified Zinc Oxide

For similar material(s): In vitro genetic toxicity studies were predominantly negative. Animal genetic toxicity studies were predominantly negative.

11.2 Information on other hazards Endocrine disrupting properties

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Information for components:

Vinyl, Methyl, Siloxane modified Zinc Oxide

The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

SECTION 12: ECOLOGICAL INFORMATION

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

12.1 Toxicity

Vinyl, Methyl, Siloxane modified Zinc Oxide

Acute toxicity to aquatic invertebrates

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

For similar material(s):

EC50, Daphnia magna (Water flea), 48 Hour, > 100 mg/l

12.2 Persistence and degradability

Vinyl, Methyl, Siloxane modified Zinc Oxide

Biodegradability: No relevant data found.

12.3 Bioaccumulative potential

Vinyl, Methyl, Siloxane modified Zinc Oxide

Bioaccumulation: No relevant data found.

12.4 Mobility in soil

Vinyl, Methyl, Siloxane modified Zinc Oxide

No relevant data found.

12.5 Results of PBT and vPvB assessment

Vinyl, Methyl, Siloxane modified Zinc Oxide

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

12.6 Endocrine disrupting properties The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Vinyl, Methyl, Siloxane modified Zinc Oxide

The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

12.7 Other adverse effects

Vinyl, Methyl, Siloxane modified Zinc Oxide

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 or ID number** Not applicable
- 14.2 UN proper shipping name** Not regulated for transport
- 14.3 Transport hazard class(es)** Not applicable
- 14.4 Packing group** Not applicable
- 14.5 Environmental hazards** Not considered environmentally hazardous based on available data.
- 14.6 Special precautions for user** No data available.

Classification for INLAND waterways (ADNR/ADN):

Consult your Dow contact before transporting by inland waterway

Classification for SEA transport (IMO-IMDG):

- 14.1 UN number or ID number** Not applicable
- 14.2 UN proper shipping name** Not regulated for transport

- | | |
|---|---|
| 14.3 Transport hazard class(es) | Not applicable |
| 14.4 Packing group | Not applicable |
| 14.5 Environmental hazards | Not considered as marine pollutant based on available data. |
| 14.6 Special precautions for user | No data available. |
| 14.7 Maritime transport in bulk according to IMO instruments | Consult IMO regulations before transporting ocean bulk |

Classification for AIR transport (IATA/ICAO):

- | | |
|--|-----------------------------|
| 14.1 UN number or ID number | Not applicable |
| 14.2 UN proper shipping name | Not regulated for transport |
| 14.3 Transport hazard class(es) | Not applicable |
| 14.4 Packing group | Not applicable |
| 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 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: Not applicable

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

No Chemical Safety Assessment has been carried out for this substance/mixture.

SECTION 16: OTHER INFORMATION

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

This product is not classified as dangerous according to EC criteria.

Revision

Identification Number: 4122375 / A305 / Issue Date: 13.02.2023 / Version: 3.0

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

Legend

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
BE OEL	Belgium. Occupational exposure limit values
STEL	Short-term exposure limit
TLV 15 min	Short term exposure limit
TLV 8 hr	Long term exposure limit
TWA	8-hour, time-weighted average

Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIIC - Australian Inventory of Industrial Chemicals; 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; KECl - 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; TECI - Thailand Existing Chemicals 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 EUROPE GMBH 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.

BE