

SAFETY DATA SHEET

Date of issue/Date of revision

: 28 April 2025

Version

: 4



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

1.1 Product identifier

Product name : SIGMAGLIDE 1290 HARDENER

Product code : 000001099951

Other means of identification

00332868; 00419878

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

Product use : Professional applications, Used by spraying.

**Use of the substance/
mixture** : Hardener.; Coating.

Uses advised against : Product is not intended, labelled or packaged for consumer use.

1.3 Details of the supplier of the safety data sheet

PPG Coatings Belgium BV/SRL

Tweemontstraat 104

B-2100 Deurne

Belgium

Telephone +32-33606311

Fax +32-33606435

**e-mail address of person
responsible for this SDS** : Product.Stewardship.EMEA@ppg.com

1.4 Emergency telephone number

Supplier

+31 20 4075210

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Flam. Liq. 3, H226

Acute Tox. 4, H302

Acute Tox. 4, H332

Skin Irrit. 2, H315

Eye Irrit. 2, H319

Skin Sens. 1, H317

Muta. 2, H341

Repr. 1B, H360FD

STOT SE 2, H371

STOT RE 2, H373

Aquatic Chronic 2, H411

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SECTION 2: Hazards identification

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms :



- Signal word : Danger
- Hazard statements :
- Flammable liquid and vapour.
 - Harmful if swallowed or if inhaled.
 - Causes skin irritation.
 - May cause an allergic skin reaction.
 - Causes serious eye irritation.
 - Suspected of causing genetic defects.
 - May damage fertility. May damage the unborn child.
 - May cause damage to organs.
 - May cause damage to organs through prolonged or repeated exposure.
 - Toxic to aquatic life with long lasting effects.

Precautionary statements

- Prevention : Wear protective gloves, protective clothing and eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid release to the environment. Do not breathe vapour.
- Response : Collect spillage.
- Storage : Not applicable.
- Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- P280, P210, P273, P260, P391, P501
- Hazardous ingredients : pentane-2,4-dione and dibutylbis(pentane-2,4-dionato-O,O')tin
- Supplemental label elements : Not applicable.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Restricted to professional users.

Special packaging requirements

- Containers to be fitted with child-resistant fastenings : Not applicable.
- Tactile warning of danger : Not applicable.

2.3 Other hazards

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SECTION 2: Hazards identification

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : This mixture contains substances that are assessed to be a PBT or a vPvB, refer to Section 3.2.

Other hazards which do not result in classification : None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	% by weight	Classification	Specific Conc. Limits, M-factors and ATEs	Type
 pentane-2,4-dione	REACH #: 01-2119458968-15 EC: 204-634-0 CAS: 123-54-6 Index: 606-029-00-0	≥25 - ≤38	Flam. Liq. 3, H226 Acute Tox. 4, H302 Acute Tox. 3, H311 Acute Tox. 3, H331	ATE [Oral] = 570 mg/kg ATE [Dermal] = 790 mg/kg ATE [Inhalation (vapours)] = 5.1 mg/l	[1] [2]
Siloxanes and Silicones, di-Me, 3-hydroxypropyl Me, ethers with polyethylene glycol mono-Me ether	CAS: 68938-54-5	≥10 - ≤25	Acute Tox. 4, H332 Aquatic Chronic 2, H411	ATE [Inhalation (vapours)] = 11 mg/l	[1]
dibutylbis(pentane-2,4-dionato-O,O')tin	REACH #: 01-2119557817-24 EC: 245-152-0 CAS: 22673-19-4 Index: 650-056-00-0	≥1.0 - <3.0	Acute Tox. 4, H302 Skin Corr. 1C, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Muta. 2, H341 Repr. 1B, H360FD STOT SE 1, H370 STOT RE 1, H372 (immune system) Aquatic Acute 1, H400 Aquatic Chronic 1, H410	ATE [Oral] = 1864 mg/kg M [Acute] = 1 M [Chronic] = 1	[1] [2]
toluene	EC: 203-625-9 CAS: 108-88-3 Index: 601-021-00-3	<1.0	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361d STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Chronic 3, H412	-	[1]
octamethylcyclotetrasiloxane	REACH #: 01-2119529238-36 EC: 209-136-7 CAS: 556-67-2 Index: 014-018-00-1	≤1.0	Repr. 2, H361f Aquatic Chronic 1, H410	M [Chronic] = 10	[1] [3] [4]
decamethylcyclopentasiloxane	REACH #: 01-2119511367-43 EC: 208-764-9 CAS: 541-02-6	≤1.0	Not classified.	-	[3] [4]
methanol	REACH #:	≤0.14	Flam. Liq. 2, H225	ATE [Oral] = 100 mg/	[1] [2]

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SECTION 3: Composition/information on ingredients

	01-2119433307-44 EC: 200-659-6 CAS: 67-56-1 Index: 603-001-00-X		Acute Tox. 3, H301 Acute Tox. 3, H311 Acute Tox. 3, H331 STOT SE 1, H370 See Section 16 for the full text of the H statements declared above.	kg ATE [Dermal] = 300 mg/kg ATE [Inhalation (vapours)] = 3 mg/l STOT SE 1, H370: C ≥ 10% STOT SE 2, H371: 3% ≤ C < 10%	
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There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

- [1] Substance classified with a health or environmental hazard
- [2] Substance with a workplace exposure limit
- [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
- [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

Occupational exposure limits, if available, are listed in Section 8.

SUB codes represent substances without registered CAS Numbers.

SECTION 4: First aid measures

4.1 Description of first aid measures

- Eye contact** : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.
- Inhalation** : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
- Skin contact** : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognised skin cleanser. Do NOT use solvents or thinners.
- Ingestion** : If swallowed, seek medical advice immediately and show the container or label. Keep person warm and at rest. Do NOT induce vomiting.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Harmful if inhaled.
- Skin contact** : May cause damage to organs following a single exposure in contact with skin. Causes skin irritation. May cause an allergic skin reaction.
- Ingestion** : Harmful if swallowed. May cause damage to organs following a single exposure if swallowed.

Over-exposure signs/symptoms

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SECTION 4: First aid measures

Eye contact	: Adverse symptoms may include the following: pain or irritation watering redness
Inhalation	: Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations
Skin contact	: Adverse symptoms may include the following: irritation redness reduced foetal weight increase in foetal deaths skeletal malformations
Ingestion	: Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media	
Suitable extinguishing media	: Use dry chemical, CO ₂ , water spray (fog) or foam.
Unsuitable extinguishing media	: Do not use water jet.
5.2 Special hazards arising from the substance or mixture	
Hazards from the substance or mixture	: Flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Hazardous combustion products	: Decomposition products may include the following materials: carbon oxides metal oxide/oxides
5.3 Advice for firefighters	
Special precautions for fire-fighters	: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
Special protective equipment for fire-fighters	: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

- : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

6.3 Methods and material for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.
- 6.4 Reference to other sections** : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

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SECTION 7: Handling and storage

- Advice on general occupational hygiene**
- : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- 7.2 Conditions for safe storage, including any incompatibilities**
- : Store between the following temperatures: 0 to 35°C (32 to 95°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidising materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

See Section 1.2 for Identified uses.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
 pentane-2,4-dione	ACGIH TLV (United States, 1/2024) Absorbed through skin. TWA 8 hours: 25 ppm.
dibutylbis(pentane-2,4-dionato-O,O')tin	ACGIH TLV (United States) Absorbed through skin. STEL: 0.2 mg/m³. TWA: 0.1 mg/m³ (as Sn).
methanol	EU OEL (Europe, 1/2022) Absorbed through skin. TWA 8 hours: 200 ppm. TWA 8 hours: 260 mg/m³.

- Recommended monitoring procedures**
- : 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.

DNELs/DMELs

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SECTION 8: Exposure controls/personal protection

Product/ingredient name	Exposure	Value
pentane-2,4-dione	DNEL - General population - Long term - Oral	Effects: Systemic 7 mg/kg bw/day
	DNEL - Workers - Long term - Dermal	Effects: Systemic 12 mg/kg bw/day
	DNEL - Workers - Long term - Inhalation	Effects: Systemic 84 mg/m ³
	DNEL - General population - Long term - Oral	Effects: Systemic 0.002 mg/kg bw/day
	DNEL - General population - Long term - Inhalation	Effects: Systemic 0.003 mg/m ³
	DNEL - General population - Short term - Oral	Effects: Systemic 0.01 mg/kg bw/day
	DNEL - Workers - Long term - Inhalation	Effects: Systemic 0.01 mg/m ³
	DNEL - General population - Short term - Inhalation	Effects: Systemic 0.02 mg/m ³
	DNEL - Workers - Short term - Inhalation	Effects: Systemic 0.07 mg/m ³
	DNEL - General population - Long term - Dermal	Effects: Systemic 0.08 mg/kg bw/day
toluene	DNEL - Workers - Long term - Dermal	Effects: Systemic 0.2 mg/kg bw/day
	DNEL - General population - Short term - Dermal	Effects: Systemic 0.5 mg/kg bw/day
	DNEL - Workers - Short term - Dermal	Effects: Systemic 1 mg/kg bw/day
	DNEL - General population - Long term - Oral	Effects: Systemic 8.13 mg/kg bw/day
	DNEL - General population - Long term - Inhalation	Effects: Local 56.5 mg/m ³
	DNEL - General population - Long term - Inhalation	Effects: Systemic 56.5 mg/m ³
	DNEL - Workers - Long term - Inhalation	Effects: Local 192 mg/m ³
	DNEL - Workers - Long term - Inhalation	Effects: Systemic 192 mg/m ³
	DNEL - General population - Long term - Dermal	Effects: Systemic 226 mg/kg bw/day
	DNEL - General population - Short term - Inhalation	Effects: Local 226 mg/m ³
octamethylcyclotetrasiloxane	DNEL - General population - Short term - Inhalation	Effects: Systemic 226 mg/m ³
	DNEL - Workers - Long term - Dermal	Effects: Systemic 384 mg/kg bw/day
	DNEL - Workers - Short term - Inhalation	Effects: Local 384 mg/m ³
	DNEL - Workers - Short term - Inhalation	Effects: Systemic 384 mg/m ³
	DNEL - General population - Long term - Oral	Effects: Systemic 3.7 mg/kg bw/day
	DNEL - General population - Long term - Inhalation	Effects: Local 13 mg/m ³
	DNEL - General population - Long term - Inhalation	Effects: Systemic 13 mg/m ³
	DNEL - Workers - Long term - Inhalation	Effects: Local 73 mg/m ³
	DNEL - Workers - Long term - Inhalation	Effects: Systemic 73 mg/m ³
	DNEL - General population - Long term - Inhalation	Effects: Local 4.3 mg/m ³
decamethylcyclopentasiloxane	DNEL - General population - Long term - Oral	Effects: Systemic 5 mg/kg bw/day
	DNEL - General population - Long term - Inhalation	Effects: Systemic 17.3 mg/m ³
	DNEL - Workers - Long term - Inhalation	Effects: Local 24.2 mg/m ³
	DNEL - Workers - Long term - Inhalation	Effects: Systemic 97.3 mg/m ³
	DNEL - General population - Short term - Oral	Effects: Systemic 4 mg/kg bw/day
	DNEL - General population - Long term - Oral	Effects: Systemic 4 mg/kg bw/day
	DNEL - General population - Short term - Dermal	Effects: Systemic 4 mg/kg bw/day
	DNEL - General population - Long term - Dermal	Effects: Systemic 4 mg/kg bw/day
	DNEL - Workers - Short term - Dermal	Effects: Systemic 20 mg/kg bw/day
	DNEL - Workers - Long term - Dermal	Effects: Systemic 20 mg/kg bw/day
methanol	DNEL - General population - Short term - Inhalation	Effects: Local 26 mg/m ³
	DNEL - General population - Long term - Inhalation	Effects: Local 26 mg/m ³
	DNEL - General population - Long term - Inhalation	Effects: Local 26 mg/m ³
	DNEL - General population - Long term - Inhalation	Effects: Local 26 mg/m ³
	DNEL - General population - Long term - Inhalation	Effects: Local 26 mg/m ³
	DNEL - General population - Long term - Inhalation	Effects: Local 26 mg/m ³
	DNEL - General population - Long term - Inhalation	Effects: Local 26 mg/m ³
	DNEL - General population - Long term - Inhalation	Effects: Local 26 mg/m ³
	DNEL - General population - Long term - Inhalation	Effects: Local 26 mg/m ³
	DNEL - General population - Long term - Inhalation	Effects: Local 26 mg/m ³

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SECTION 8: Exposure controls/personal protection

	Inhalation		
	DNEL - General population - Short term - Inhalation	Effects: Systemic	26 mg/m³
	DNEL - General population - Long term - Inhalation	Effects: Systemic	26 mg/m³
	DNEL - Workers - Short term - Inhalation	Effects: Local	130 mg/m³
	DNEL - Workers - Long term - Inhalation	Effects: Local	130 mg/m³
	DNEL - Workers - Short term - Inhalation	Effects: Systemic	130 mg/m³
	DNEL - Workers - Long term - Inhalation	Effects: Systemic	130 mg/m³

PNECs

Product/ingredient name	Compartment Detail - Method	Value
pentane-2,4-dione	Fresh water	0.026 mg/l
	Fresh water sediment	0.155 mg/kg dw
	Marine water	0.0026 mg/l
	Marine water sediment	0.0155 mg/kg dw
	Soil	0.01582 mg/kg dw
toluene	Sewage Treatment Plant	1.32 mg/l
	Fresh water - Sensitivity Distribution	0.68 mg/l
	Marine water - Sensitivity Distribution	0.68 mg/l
	Sewage Treatment Plant - Sensitivity Distribution	13.61 mg/l
	Fresh water sediment - Equilibrium Partitioning	16.39 mg/kg dw
methanol	Marine water sediment	16.39 mg/kg dw
	Fresh water - Assessment Factors	20.8 mg/l
	Marine water - Assessment Factors	2.08 mg/l
	Sewage Treatment Plant - Assessment Factors	100 mg/l
	Fresh water sediment - Equilibrium Partitioning	77 mg/kg
	Marine water sediment - Equilibrium Partitioning	7.7 mg/kg
	Soil - Assessment Factors	100 mg/kg

8.2 Exposure controls

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Chemical splash goggles. Use eye protection according to EN 166.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. When prolonged or frequently repeated contact may occur, a glove with a protection class of 6 (breakthrough time greater than 480 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 2 or higher

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SECTION 8: Exposure controls/personal protection

(breakthrough time greater than 30 minutes according to EN 374) is recommended. The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.

Gloves	: butyl rubber
Body protection	: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.
Other skin protection	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	: Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Wear a respirator conforming to EN140. Filter type: organic vapour (Type A) and particulate filter P3
Environmental exposure controls	: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

9.1 Information on basic physical and chemical properties

Appearance

Physical state

Colour

Odour

Melting point/freezing point

Boiling point or initial boiling point and boiling range

Flammability

Lower and upper explosion limit

Flash point

Auto-ignition temperature

Decomposition temperature

pH

Viscosity

: Liquid.

: Colourless.

: Amine-like.

: Not determined.

: >37.78°C

: Not determined. There are no data available on the mixture itself.

: Not available.

: Closed cup: 34°C

:

Ingredient name	°C	°F	Method
pentane-2,4-dione	340	644	

: Stable under recommended storage and handling conditions (see Section 7).

: Not applicable. insoluble in water.

:

Dynamic (room temperature): Not available.

Kinematic (room temperature): Not available.

Kinematic (40°C): >21 mm²/s

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SECTION 9: Physical and chemical properties

Viscosity

: 30 - <40 s (ISO 6mm)

Solubility

:

Media	Result
cold water	Not soluble

Partition coefficient n-octanol/ water (log Pow)

: Not applicable.

Vapour pressure

:

Ingredient name	Vapour Pressure at 20°C			Vapour pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
pentane-2,4-dione	6.97557	0.93				

Relative density

: 1.04

Particle characteristics

Median particle size

: Not applicable.

9.2 Other information

9.2.1 Information with regard to physical hazard classes

Explosive properties

: The product itself is not explosive, but the formation of an explosible mixture of vapour or dust with air is possible.

Oxidising properties

: Product does not present an oxidizing hazard.

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	: The product is stable.
10.3 Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: When exposed to high temperatures may produce hazardous decomposition products. Refer to protective measures listed in sections 7 and 8.
10.5 Incompatible materials	: Keep away from the following materials to prevent strong exothermic reactions: oxidising agents, strong alkalis, strong acids.
10.6 Hazardous decomposition products	: Depending on conditions, decomposition products may include the following materials: carbon oxides metal oxide/oxides

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008	
The mixture has been assessed following the conventional method of the CLP Regulation (EC) No 1272/2008 and is classified for toxicological properties accordingly.	

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SECTION 11: Toxicological information

- Harmful if swallowed or if inhaled.
- Causes serious eye irritation.
- Causes skin irritation.
- May cause an allergic skin reaction.
- May damage fertility.
- May damage the unborn child.
- Suspected of causing genetic defects.
- May cause damage to organs.
- May cause damage to organs through prolonged or repeated exposure.

Acute toxicity

Product/ingredient name	Result	Dose / Exposure
Pentane-2,4-dione	Rat - Oral - LD50	570 mg/kg
	Rat - Dermal - LD50	790 mg/kg
	Rat - Inhalation - LC50 Vapour	5.1 mg/l [4 hours]
dibutylbis(pentane-2,4-dionato-O, O')tin	Rat - Oral - LD50	1864 mg/kg
toluene	Rat - Dermal - LD50	>2000 mg/kg
	Rat - Oral - LD50	5580 mg/kg
	Rat - Inhalation - LC50 Vapour	49 g/m³ [4 hours]
octamethylcyclotetrasiloxane	Rat - Oral - LD50	>4800 mg/kg
	Rat - Dermal - LD50	>2375 mg/kg
	Rat - Inhalation - LC50 Vapour	36 g/m³ [4 hours]
	<i>Toxic effects:</i> Behavioral - Excitement Lung, Thorax, or Respiration - Dyspnea Other - Hair	
decamethylcyclopentasiloxane	Rabbit - Dermal - LD50	>15.3 g/kg
	Rat - Oral - LD50	>24134 mg/kg
	Rat - Inhalation - LC50 Dusts and mists	8.67 mg/l [4 hours]
methanol	Rabbit - Dermal - LD50	15800 mg/kg
	<i>Toxic effects:</i> Eye - Visual field changes	
	Rat - Oral - LD50	5600 mg/kg
	Rat - Inhalation - LC50 Vapour	64000 ppm [4 hours]

Acute toxicity estimates

Route	ATE value
Oral	1467.22 mg/kg
Dermal	2098.02 mg/kg
Inhalation (vapours)	10.42 mg/l

Conclusion/Summary : Harmful if swallowed or if inhaled.

Irritation/Corrosion

Conclusion/Summary

Skin : Causes skin irritation.

Eyes : Causes serious eye irritation.

Respiratory : Based on available data, the classification criteria are not met.

Respiratory or skin sensitization

Conclusion/Summary

Skin : May cause an allergic skin reaction.

Respiratory : Based on available data, the classification criteria are not met.

Mutagenicity

Suspected of causing genetic defects.

Carcinogenicity

Based on available data, the classification criteria are not met.

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Reproductive toxicity

May damage fertility.
May damage the unborn child.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
dibutylbis(pentane-2,4-dionato-O,O')tin	Category 1	-	-
toluene	Category 3	-	Narcotic effects
methanol	Category 1	-	-

Conclusion/Summary :

May cause damage to organs.

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
dibutylbis(pentane-2,4-dionato-O,O')tin	Category 1	-	immune system
toluene	Category 2	-	-

Conclusion/Summary :

May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard

Product/ingredient name	Result
toluene	ASPIRATION HAZARD - Category 1

Conclusion/Summary :

Based on available data, the classification criteria are not met.

Information on likely routes of exposure : Not available.

Potential acute health effects

- Inhalation : Harmful if inhaled.
- Ingestion : Harmful if swallowed. May cause damage to organs following a single exposure if swallowed.
- Skin contact : May cause damage to organs following a single exposure in contact with skin. Causes skin irritation. May cause an allergic skin reaction.
- Eye contact : Causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics

- Inhalation : Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths
skeletal malformations
- Ingestion : Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths
skeletal malformations
- Skin contact : Adverse symptoms may include the following:
irritation
redness
reduced foetal weight
increase in foetal deaths
skeletal malformations

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Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

Potential immediate effects : No known significant effects or critical hazards.
Potential delayed effects : No known significant effects or critical hazards.

Long term exposure

Potential immediate effects : No known significant effects or critical hazards.
Potential delayed effects : No known significant effects or critical hazards.

Potential chronic health effects

General : May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : Suspected of causing genetic defects.
Reproductive toxicity : May damage fertility. May damage the unborn child.
Other information : Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapour/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

11.2.2 Other information

Not available.

SECTION 12: Ecological information

There are no data available on the mixture itself.
Do not allow to enter drains or watercourses.

The mixture has been assessed following the summation method of the CLP Regulation (EC) No 1272/2008 and is classified for eco-toxicological properties accordingly. See Sections 2 and 3 for details.

12.1 Toxicity

Product/ingredient name	Result	Species	Dose / Exposure
toluene	EC50	Daphnia	3.78 mg/l [48 hours]
octamethylcyclotetrasiloxane	LC50	Fish	5.5 mg/l [96 hours]
	Chronic - NOEC - Fresh water	Daphnia - Water flea - <i>Daphnia magna</i>	100 mg/l [21 days]
methanol	Acute - LC50 - Fresh water	Fish - Trout	13 mg/l [96 hours]

Conclusion/Summary : Toxic to aquatic life with long lasting effects.

12.2 Persistence and degradability

Based on available data, the classification criteria are not met.

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SECTION 12: Ecological information

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
toluene	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
pentane-2,4-dione	0.68	-	Low
toluene	2.73	90	Low
octamethylcyclotetrasiloxane	6.488	-	High
decamethylcyclopentasiloxane	8.023	-	High
methanol	-0.77	-	Low

12.4 Mobility in soil

Soil/water partition coefficient

Product/ingredient name	logK _{oc}	K _{oc}
pentane-2,4-dione	1.1	12.6222
octamethylcyclotetrasiloxane	3.49	3064.9
decamethylcyclopentasiloxane	3.91	8156.49
methanol	0.44	2.75443

12.5 Results of PBT and vPvB assessment

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
pentane-2,4-dione	No	N/A	N/A	No	N/A	N/A	N/A
Siloxanes and Silicones, di-Me, 3-hydroxypropyl Me, ethers with polyethylene glycol mono-Me ether	No	N/A	N/A	No	N/A	N/A	N/A
toluene	No	N/A	No	Yes	No	N/A	No
octamethylcyclotetrasiloxane	SVHC (Recommended)	Specified	Specified	Specified	SVHC (Recommended)	Specified	Specified
decamethylcyclopentasiloxane	SVHC (Recommended)	Specified	Specified	Specified	SVHC (Recommended)	Specified	Specified
methanol	No	N/A	N/A	No	N/A	N/A	N/A

12.6 Endocrine disrupting properties

The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

12.7 Other adverse effects

No known significant effects or critical hazards.

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SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

<u>Product</u>	
Methods of disposal	: The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.
Hazardous waste :	
<u>European waste catalogue (EWC)</u>	
Waste code	Waste designation
08 01 11*	waste paint and varnish containing organic solvents or other hazardous substances

<u>Packaging</u>	
Methods of disposal	: The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
Type of packaging	European waste catalogue (EWC)
Container	15 01 06 mixed packaging

Special precautions	: This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.
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SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number or ID number	UN1263	UN1263	UN1263	UN1263
14.2 UN proper shipping name	PAINT	PAINT	PAINT	PAINT
14.3 Transport hazard class(es)	3	3	3	3
14.4 Packing group	III	III	III	III
14.5 Environmental hazards	Yes.	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.

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SECTION 14: Transport information

Marine pollutant substances	Not applicable.	Not applicable.	(Siloxanes and Silicones, di-Me, 3-hydroxypropyl Me, ethers with polyethylene glycol mono-Me ether)	Not applicable.
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Additional information

- ADR/RID : The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.
- Tunnel code : (D/E)
- ADN : The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.
- IMDG : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.
- IATA : The environmentally hazardous substance mark may appear if required by other transportation regulations.

14.6 Special precautions for user : **Transport within user’s premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Maritime transport in bulk according to IMO instruments : Not applicable.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
[EU Regulation \(EC\) No. 1907/2006 \(REACH\)](#)

[Annex XIV - List of substances subject to authorisation](#)

[Annex XIV](#)
None of the components are listed.
[Substances of very high concern](#)

Intrinsic property	Ingredient name	Status	Reference number	Date of revision
 Toxic to reproduction	dibutylbis(pentane-2,4-dionato-O,O')tin	Candidate	D(2020) 4578-DC	6/25/2020
PBT	octamethylcyclotetrasiloxane	Recommended	ED/71/2019	4/14/2021
	decamethylcyclopentasiloxane	Recommended	ED/71/2019	4/14/2021
vPvB	octamethylcyclotetrasiloxane	Recommended	ED/71/2019	4/14/2021
	decamethylcyclopentasiloxane	Recommended	ED/71/2019	4/14/2021

[Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles](#)

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SECTION 15: Regulatory information

Product/ingredient name	Entry Number (REACH)
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dibutylbis(pentane-2,4-dionato-O,O')tin	30
	20
toluene	30
octamethylcyclotetrasiloxane	48
decamethylcyclopentasiloxane	70
methanol	70
	69

Labelling : Restricted to professional users.

Explosive precursors : Not applicable.

Ozone depleting substances (EU 2024/590)

Not listed.

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category
 P5c E2

15.2 Chemical safety assessment : No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

 Indicates information that has changed from previously issued version.

Abbreviations and acronyms

ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
PBT = Persistent, Bioaccumulative and Toxic
vPvB = Very Persistent and Very Bioaccumulative
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
IMDG = International Maritime Dangerous Goods
IATA = International Air Transport Association

Full text of abbreviated H statements

 H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.

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H331 H332 H336 H341 H360FD H361d H361f H370 H371 H372 H373 H400 H410 H411 H412	Toxic if inhaled. Harmful if inhaled. May cause drowsiness or dizziness. Suspected of causing genetic defects. May damage fertility. May damage the unborn child. Suspected of damaging the unborn child. Suspected of damaging fertility. Causes damage to organs. May cause damage to organs. Causes damage to organs through prolonged or repeated exposure. May cause damage to organs through prolonged or repeated exposure. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects. Toxic to aquatic life with long lasting effects. Harmful to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS]

Acute Tox. 3 Acute Tox. 4 Aquatic Acute 1 Aquatic Chronic 1 Aquatic Chronic 2 Aquatic Chronic 3 Asp. Tox. 1 Eye Dam. 1 Eye Irrit. 2 Flam. Liq. 2 Flam. Liq. 3 Muta. 2 Repr. 1B Repr. 2 Skin Corr. 1C Skin Irrit. 2 Skin Sens. 1 STOT RE 1 STOT RE 2 STOT SE 1 STOT SE 2 STOT SE 3	ACUTE TOXICITY - Category 3 ACUTE TOXICITY - Category 4 SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3 ASPIRATION HAZARD - Category 1 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 FLAMMABLE LIQUIDS - Category 2 FLAMMABLE LIQUIDS - Category 3 GERM CELL MUTAGENICITY - Category 2 REPRODUCTIVE TOXICITY - Category 1B REPRODUCTIVE TOXICITY - Category 2 SKIN CORROSION/IRRITATION - Category 1C SKIN CORROSION/IRRITATION - Category 2 SKIN SENSITISATION - Category 1 SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 1 SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 1 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 2 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3
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SECTION 16: Other information

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by us, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.