

SAFETY DATA SHEET

Date of issue/Date of revision

: 13 June 2022

Version

: 4.05

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

1.1 Product identifier

Product name : DIRECT PRO 2K ACRYLIC TOPCOAT HIGH GLOSS

Product code : 7-159/E3.75K

Other means of identification

Not available.

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

Product use : Industrial applications.

Use of the substance/mixture : 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 Industries Italia S.r.l., Via Comasina, 121, 20161 Milano, Italy Tel: +39 02 6404.1

PPG Industries (UK) Ltd., Needham Road, Stowmarket, Suffolk, IP14 2AD, UK Tel: +44 (0) 1449 773 338

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

1.4 Emergency telephone number

Company emergency telephone number : +39 02 6404.1 (0800-1700)

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

Eye Irrit. 2, H319

Skin Sens. 1, H317

Aquatic Chronic 3, H412

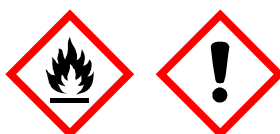
The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

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 :



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SECTION 2: Hazards identification

- Signal word** : Warning
- Hazard statements** : Flammable liquid and vapour.
May cause an allergic skin reaction.
Causes serious eye irritation.
Harmful to aquatic life with long lasting effects.
- Precautionary statements**
- Prevention** : Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid release to the environment. Avoid breathing vapour.
- Response** : Take off contaminated clothing and wash it before reuse.
- Storage** : Not applicable.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
P280, P210, P273, P261, P362 + P364, P501
- Hazardous ingredients** : N'-ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide)
Reaction mass of bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate
- Supplemental label elements** : Not applicable.
- Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.
- Special packaging requirements**
- Containers to be fitted with child-resistant fastenings** : Not applicable.
- Tactile warning of danger** : Not applicable.

2.3 Other hazards

- Product meets the criteria for PBT or vPvB** : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
- Other hazards which do not result in classification** : Prolonged or repeated contact may dry skin and cause irritation.

SECTION 3: Composition/information on ingredients

- 3.2 Mixtures** : Mixture

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SECTION 3: Composition/information on ingredients

Product/ingredient name	Identifiers	% by weight	Classification	Specific Conc. Limits, M-factors and ATEs	Type
n-butyl acetate	REACH #: 01-2119485493-29 EC: 204-658-1 CAS: 123-86-4 Index: 607-025-00-1	≥10 - ≤12	Flam. Liq. 3, H226 STOT SE 3, H336 EUH066	-	[1] [2]
2-methoxy-1-methylethyl acetate	REACH #: 01-2119475791-29 EC: 203-603-9 CAS: 108-65-6 Index: 607-195-00-7	≥1.0 - ≤5.7	Flam. Liq. 3, H226 STOT SE 3, H336	-	[1] [2]
[3-(2,3-epoxypropoxy) propyl]trimethoxysilane	REACH #: 01-2119513212-58 EC: 219-784-2 CAS: 2530-83-8	≥1.0 - <3.0	Eye Dam. 1, H318	-	[1]
ethyl 3-ethoxypropionate	REACH #: 01-2119463267-34 EC: 212-112-9 CAS: 763-69-9	≥1.0 - ≤5.0	Flam. Liq. 3, H226 EUH066	EUH066: C ≥ 20%	[1] [2]
heptan-2-one	REACH #: 01-2119902391-49 EC: 203-767-1 CAS: 110-43-0 Index: 606-024-00-3	≤1.4	Flam. Liq. 3, H226 Acute Tox. 4, H302 Acute Tox. 4, H332 STOT SE 3, H336	ATE [Oral] = 1600 mg/kg ATE [Inhalation (vapours)] = 16.7 mg/l	[1] [2]
N,N'-ethane-1,2-diylbis (12-hydroxyoctadecan-1-amide)	REACH #: 01-2119978265-26 EC: 204-613-6 CAS: 123-26-2	<1.0	Skin Sens. 1B, H317 Aquatic Chronic 3, H412	-	[1] [2]
4-methylpentan-2-one	REACH #: 01-2119473980-30 EC: 203-550-1 CAS: 108-10-1 Index: 606-004-00-4	<1.0	Flam. Liq. 2, H225 Acute Tox. 4, H332 Eye Irrit. 2, H319 Carc. 2, H351 STOT SE 3, H336 EUH066	ATE [Inhalation (vapours)] = 11 mg/l	[1] [2]
Reaction mass of bis (1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	REACH #: 01-2119491304-40 EC: 915-687-0 CAS: 1065336-91-5	≤1.0	Skin Sens. 1A, H317 Repr. 2, H361 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M [Acute] = 1 M [Chronic] = 1	[1]
1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl)bisbenzene	EC: 228-846-8 CAS: 6362-80-7	≤0.10	Acute Tox. 4, H302 Skin Sens. 1, H317 STOT RE 2, H373 (liver) (oral) Aquatic Acute 1, H400 Aquatic Chronic 1, H410	ATE [Oral] = 500 mg/kg M [Acute] = 10 M [Chronic] = 10	[1]

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SECTION 3: Composition/information on ingredients

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

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. 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** : No known significant effects or critical hazards.
- Skin contact** : Defatting to the skin. May cause skin dryness and irritation. May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
dryness
cracking
- Ingestion** : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

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SECTION 4: First aid measures

- 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, CO₂, 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 harmful 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
sulfur oxides
halogenated compounds
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.

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.

6.3 Methods and material for containment and cleaning up

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SECTION 6: Accidental release measures

- 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. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. 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.
- 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. 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.

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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
n-butyl acetate	EU OEL (Europe, 10/2019). STEL: 150 ppm 15 minutes. STEL: 723 mg/m ³ 15 minutes. TWA: 241 mg/m ³ 8 hours. TWA: 50 ppm 8 hours.
2-methoxy-1-methylethyl acetate	EU OEL (Europe, 10/2019). Absorbed through skin. STEL: 550 mg/m ³ 15 minutes. STEL: 100 ppm 15 minutes. TWA: 275 mg/m ³ 8 hours. TWA: 50 ppm 8 hours.
ethyl 3-ethoxypropionate	IPEL (-). TWA: 50 ppm STEL: 100 ppm
heptan-2-one	EU OEL (Europe, 10/2019). Absorbed through skin. STEL: 475 mg/m ³ 15 minutes. STEL: 100 ppm 15 minutes. TWA: 238 mg/m ³ 8 hours. TWA: 50 ppm 8 hours.
N,N'-ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide)	ACGIH TLV (United States). TWA: 3 mg/m ³ Form: Respirable TWA: 10 mg/m ³ Form: Total dust
4-methylpentan-2-one	EU OEL (Europe, 10/2019). STEL: 208 mg/m ³ 15 minutes. STEL: 50 ppm 15 minutes. TWA: 83 mg/m ³ 8 hours. TWA: 20 ppm 8 hours.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. 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

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SECTION 8: Exposure controls/personal protection

Product/ingredient name	Type	Exposure	Value	Population	Effects
n-butyl acetate	DNEL	Long term Inhalation	300 mg/m ³	Workers	Systemic
	DNEL	Long term Inhalation	300 mg/m ³	Workers	Local
	DNEL	Short term Inhalation	600 mg/m ³	Workers	Local
	DNEL	Short term Inhalation	600 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	11 mg/m ³	Workers	Systemic
	DNEL	Short term Oral	2 mg/kg bw/day	General population	Systemic
	DNEL	Long term Oral	2 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	6 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	11 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	35.7 mg/m ³	General population	Local
	DNEL	Short term Inhalation	300 mg/m ³	General population	Local
	DNEL	Short term Inhalation	300 mg/m ³	General population	Systemic
	DNEL	Long term Inhalation	300 mg/m ³	Workers	Local
	DNEL	Short term Inhalation	600 mg/m ³	Workers	Local
	DNEL	Short term Inhalation	600 mg/m ³	Workers	Systemic
2-methoxy-1-methylethyl acetate	DNEL	Long term Oral	1.67 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	33 mg/m ³	General population	Local
	DNEL	Long term Inhalation	33 mg/m ³	General population	Systemic
[3-(2,3-epoxypropoxy)propyl] trimethoxysilane	DNEL	Long term Dermal	54.8 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	153.5 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	275 mg/m ³	Workers	Systemic
	DNEL	Short term Inhalation	550 mg/m ³	Workers	Local
	DNEL	Short term Inhalation	147 mg/m ³	Workers	Systemic
ethyl 3-ethoxypropionate	DNEL	Short term Dermal	21 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Oral	5 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	5 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	10 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	17 mg/m ³	General population	Systemic
	DNEL	Long term Inhalation	70.5 mg/m ³	Workers	Systemic
	DNEL	Short term Inhalation	26400 mg/m ³	General population	Systemic
	DNEL	Long term Dermal	102 mg/cm ²	Workers	Local
	DNEL	Long term Oral	1.2 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	24.2 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	72.6 mg/m ³	General population	Local
	DNEL	Long term Inhalation	72.6 mg/m ³	General population	Systemic
	DNEL	Long term Dermal	102 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	610 mg/m ³	Workers	Local
	DNEL	Long term Inhalation	610 mg/m ³	Workers	Systemic
heptan-2-one	DNEL	Long term Dermal	102 mg/cm ²	Workers	Local
	DNEL	Long term Oral	23.32 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	23.32 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	54.27 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	84.31 mg/m ³	General population	Systemic
	DNEL	Long term Inhalation	394.25 mg/m ³	Workers	Systemic
	DNEL	Short term Inhalation	1516 mg/m ³	Workers	Systemic
N,N'-ethane-1,2-diylbis (12-hydroxyoctadecan-1-amide)	DNEL	Long term Inhalation	0.83 mg/m ³	General population	Local
	DNEL	Long term Inhalation	0.83 mg/m ³	General population	Local
4-methylpentan-2-one	DNEL	Long term Inhalation	3.35 mg/m ³	Workers	Local
	DNEL	Long term Oral	4.2 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	4.2 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	11.8 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	14.7 mg/m ³	General population	Local
	DNEL	Long term Inhalation	14.7 mg/m ³	General population	Systemic

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SECTION 8: Exposure controls/personal protection

1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl) bisbenzene	DNEL	Long term Inhalation	83 mg/m ³	Workers	Local
	DNEL	Long term Inhalation	83 mg/m ³	Workers	Systemic
	DNEL	Short term Inhalation	155.2 mg/m ³	General population	Local
	DNEL	Short term Inhalation	155.2 mg/m ³	General population	Systemic
	DNEL	Short term Inhalation	208 mg/m ³	Workers	Local
	DNEL	Short term Inhalation	208 mg/m ³	Workers	Systemic
	DNEL	Short term Oral	0.03 mg/kg bw/day	General population	Systemic
	DNEL	Long term Oral	0.08 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.08 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	0.13 mg/m ³	General population	Systemic
DNEL	Long term Dermal	0.15 mg/kg bw/day	Workers	Systemic	
DNEL	Long term Inhalation	0.53 mg/m ³	Workers	Systemic	

PNECs

Product/ingredient name	Type	Compartment Detail	Value	Method Detail
n-butyl acetate	-	Fresh water	0.18 mg/l	-
	-	Marine water	0.018 mg/l	-
	-	Fresh water sediment	0.981 mg/kg	-
	-	Marine water sediment	0.0981 mg/kg	-
	-	Sewage Treatment Plant	35.6 mg/l	-
2-methoxy-1-methylethyl acetate	-	Soil	0.0903 mg/kg	-
	-	Fresh water	0.635 mg/l	-
	-	Marine water	0.0635 mg/l	-
	-	Fresh water sediment	3.29 mg/kg	-
	-	Marine water sediment	0.329 mg/kg	-
[3-(2,3-epoxypropoxy)propyl] trimethoxysilane	-	Soil	0.29 mg/kg	-
	-	Sewage Treatment Plant	100 mg/l	-
	-	Fresh water	1 mg/l	Assessment Factors
	-	Marine water	0.1 mg/l	Assessment Factors
	-	Sewage Treatment Plant	10 mg/l	Assessment Factors
heptan-2-one	-	Fresh water sediment	3.6 mg/kg dwt	Equilibrium Partitioning
	-	Marine water sediment	0.36 mg/kg dwt	Equilibrium Partitioning
	-	Soil	0.14 mg/kg dwt	Equilibrium Partitioning
	-	Fresh water	0.0982 mg/l	Assessment Factors
	-	Marine water	0.00982 mg/l	Assessment Factors
4-methylpentan-2-one	-	Fresh water sediment	1.89 mg/kg	Equilibrium Partitioning
	-	Marine water sediment	0.189 mg/kg	Equilibrium Partitioning
	-	Sewage Treatment Plant	12.5 mg/l	Assessment Factors
	-	Soil	0.321 mg/kg	Equilibrium Partitioning
	-	Fresh water	0.6 mg/l	Assessment Factors
	-	Marine water	0.06 mg/l	Assessment Factors
	-	Sewage Treatment Plant	27.5 mg/l	Assessment Factors
	-	Fresh water sediment	8.27 mg/kg	Equilibrium Partitioning
	-	Marine water sediment	0.83 mg/kg	Equilibrium Partitioning
	-	Soil	1.3 mg/kg	Equilibrium Partitioning

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

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SECTION 8: Exposure controls/personal protection

- 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 (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** : For prolonged or repeated handling, use the following type of gloves:
- Recommended: neoprene, natural rubber (latex), Viton®, butyl rubber
May be used: Chloroprene, nitrile 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** : Use with adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Wear a respirator conforming to EN140. 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. Mask type: full-face mask half-face mask Filter type: organic vapour filter (Type A) particulate filter P3 Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.
- 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.

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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** : Liquid.
- Colour** : Colourless.
- Odour** : Characteristic.
- Odour threshold** : Not available.
- Melting point/freezing point** : May start to solidify at the following temperature: <-20°C (<-4°F) This is based on data for the following ingredient: heptan-2-one. Weighted average: -81.39°C (-114.5°F)
- Initial boiling point and boiling range** : >37.78°C
- Flammability** : liquid
- Upper/lower flammability or explosive limits** : Greatest known range: Lower: 1.05% Upper: 9.8% (ethyl 3-ethoxypropionate)
- Flash point** : Closed cup: 23°C
- Auto-ignition temperature** :

Ingredient name	°C	°F	Method
2-methoxy-1-methylethyl acetate	333	631.4	DIN 51794

- Decomposition temperature** : Stable under recommended storage and handling conditions (see Section 7).
- pH** : Not applicable. insoluble in water.
- Viscosity** : Kinematic (40°C): >21 mm²/s
- Viscosity** : 30 - <40 s (ISO 6mm)
- Solubility(ies)** :

Media	Result
Old water	Not soluble

- Partition coefficient: n-octanol/ water** : Not applicable.

Vapour pressure :

Ingredient name	Vapour Pressure at 20°C			Vapour pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
n-butyl acetate	11.25	1.5	DIN EN 13016-2			

- Evaporation rate** : Highest known value: 1 (n-butyl acetate) Weighted average: 0.93 compared with butyl acetate
- Relative density** : 1.33
- Vapour density** : Highest known value: 8.1 (Air = 1) ([3-(2,3-epoxypropoxy)propyl]trimethoxysilane). Weighted average: 4.55 (Air = 1)
- 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.

Particle characteristics

- Median particle size** : Not applicable.

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SECTION 9: Physical and chemical properties

9.2 Other information

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 sulfur oxides halogenated compounds metal oxide/oxides

SECTION 11: Toxicological information

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

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
n-butyl acetate	LC50 Inhalation Vapour	Rat	>21.1 mg/l	4 hours
	LC50 Inhalation Vapour	Rat	2000 ppm	4 hours
	LD50 Dermal	Rabbit	>17600 mg/kg	-
	LD50 Oral	Rat	10.768 g/kg	-
2-methoxy-1-methylethyl acetate	LC50 Inhalation Vapour	Rat	30 mg/l	4 hours
	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	6190 mg/kg	-
[3-(2,3-epoxypropoxy)propyl] trimethoxysilane	LC50 Inhalation Dusts and mists	Rat	>5300 mg/m ³	4 hours
	LD50 Dermal	Rabbit	4.3 g/kg	-
	LD50 Oral	Rat	7.01 g/kg	-
ethyl 3-ethoxypropionate	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	3200 mg/kg	-
heptan-2-one	LC50 Inhalation Vapour	Rat	16.7 mg/l	4 hours
	LD50 Dermal	Rabbit	10.206 g/kg	-
	LD50 Oral	Rat	1.6 g/kg	-
N,N'-ethane-1,2-diylbis (12-hydroxyoctadecan-1-amide)	LC50 Inhalation Dusts and mists	Rat	>5.11 mg/l	4 hours
	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	>2000 mg/kg	-
4-methylpentan-2-one	LC50 Inhalation Vapour	Rat	11 mg/l	4 hours
	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	2.08 g/kg	-
Reaction mass of bis (1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	LD50 Dermal	Rat	>3170 mg/kg	-

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SECTION 11: Toxicological information

	LD50 Oral	Rat - Male, Female	3230 mg/kg	-
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Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
3-(2,3-epoxypropoxy)propyl] trimethoxysilane	Eyes - Cornea opacity	Rabbit	11.8	1 minutes	24 hours

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Sensitisation

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
n-butyl acetate	Category 3	-	Narcotic effects
2-methoxy-1-methylethyl acetate	Category 3	-	Narcotic effects
heptan-2-one	Category 3	-	Narcotic effects
4-methylpentan-2-one	Category 3	-	Narcotic effects

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl) bisbenzene	Category 2	oral	liver

Aspiration hazard

Not available.

Information on likely routes of exposure : Not available.

Potential acute health effects

Inhalation : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Skin contact : Defatting to the skin. May cause skin dryness and irritation. May cause an allergic skin reaction.

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SECTION 11: Toxicological information

Eye contact : Causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation : No specific data.

Ingestion : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
redness
dryness
cracking

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 : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

Conclusion/Summary : Not available.

General : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

Other information : Not available.

Prolonged or repeated contact may dry skin and cause irritation. Sanding and grinding dusts may be harmful if inhaled. 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. Trimethoxysilanes are capable of forming methanol if hydrolyzed or ingested. If swallowed, methanol may be harmful or fatal or cause blindness. Avoid contact with skin and clothing.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Not available.

11.2.2 Other information

Not available.

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SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
<input checked="" type="checkbox"/> butyl acetate 2-methoxy-1-methylethyl acetate [3-(2,3-epoxypropoxy)propyl]trimethoxysilane ethyl 3-ethoxypropionate heptan-2-one N,N'-ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide) 4-methylpentan-2-one Reaction mass of bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate 1,1'-(1,1-dimethyl-3-methylene-1,3-propanediyl) bisbenzene	Acute LC50 18 mg/l Acute LC50 134 mg/l Fresh water Acute LC50 324 mg/l Acute LC50 60.9 mg/l Acute LC50 131 mg/l Acute EC50 29 to 43 mg/l Acute EC50 94 mg/l Acute LC50 >179 mg/l EC50 1.68 mg/l LC50 0.9 mg/l Acute LC50 0.057 mg/l	Fish Fish - Oncorhynchus mykiss Daphnia Fish Fish Algae - Pseudokirchneriella subcapitata Daphnia - Daphnia magna Fish Algae Fish Crustaceans	96 hours 96 hours 48 hours 96 hours 96 hours 72 hours 48 hours 96 hours 72 hours 96 hours 48 hours

Conclusion/Summary : There are no data available on the mixture itself.

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
<input checked="" type="checkbox"/> butyl acetate 2-methoxy-1-methylethyl acetate heptan-2-one N,N'-ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide) 4-methylpentan-2-one	TEPA and OECD 301D - OECD 310 - OECD 301F	83 % - Readily - 28 days 83 % - Readily - 28 days 69 % - Readily - 28 days 63 % - 28 days 83 % - Readily - 28 days	-	-

Conclusion/Summary : There are no data available on the mixture itself.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
<input checked="" type="checkbox"/> butyl acetate 2-methoxy-1-methylethyl acetate ethyl 3-ethoxypropionate heptan-2-one N,N'-ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide) 4-methylpentan-2-one	-	-	Readily Readily Readily Readily Readily

12.3 Bioaccumulative potential

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SECTION 12: Ecological information

Product/ingredient name	LogP _{ow}	BCF	Potential
n-butyl acetate	2.3	-	low
2-methoxy-1-methylethyl acetate	1.2	-	low
ethyl 3-ethoxypropionate	1.47	-	low
heptan-2-one	2.26	-	low
N,N'-ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide)	>6	-	high
4-methylpentan-2-one	1.9	-	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Endocrine disrupting properties

Not available.

12.7 Other adverse effects

No known significant effects or critical hazards.

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

Product

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 : Yes.

European waste catalogue (EWC)

Waste code	Waste designation
08 01 11*	waste paint and varnish containing organic solvents or other hazardous substances

Packaging

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 04 metallic packaging

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SECTION 13: Disposal considerations

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.

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	No.	Yes.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.	Not applicable.

Additional information

ADR/RID : None identified.

Tunnel code : (D/E)

ADN : The product is only regulated as an environmentally hazardous substance when transported in tank vessels.

IMDG : None identified.

IATA : None identified.

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](#)

None of the components are listed.

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SECTION 15: Regulatory information

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Ozone depleting substances (1005/2009/EU)

Not listed.

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category
P5c

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

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Flam. Liq. 3, H226 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 3, H412	On basis of test data Calculation method Calculation method Calculation method

Full text of abbreviated H statements

H225 H226 H302 H317 H318 H319 H332 H336 H351 H361	Highly flammable liquid and vapour. Flammable liquid and vapour. Harmful if swallowed. May cause an allergic skin reaction. Causes serious eye damage. Causes serious eye irritation. Harmful if inhaled. May cause drowsiness or dizziness. Suspected of causing cancer. Suspected of damaging fertility or the unborn child.
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SECTION 16: Other information

H373 H400 H410 H412 EUH066	May cause damage to organs through prolonged or repeated exposure. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects. Harmful to aquatic life with long lasting effects. Repeated exposure may cause skin dryness or cracking.
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Full text of classifications [CLP/GHS]

Acute Tox. 4 Aquatic Acute 1 Aquatic Chronic 1 Aquatic Chronic 3 Carc. 2 Eye Dam. 1 Eye Irrit. 2 Flam. Liq. 2 Flam. Liq. 3 Repr. 2 Skin Sens. 1 Skin Sens. 1A Skin Sens. 1B STOT RE 2 STOT SE 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 3 CARCINOGENICITY - Category 2 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 FLAMMABLE LIQUIDS - Category 2 FLAMMABLE LIQUIDS - Category 3 REPRODUCTIVE TOXICITY - Category 2 SKIN SENSITISATION - Category 1 SKIN SENSITISATION - Category 1A SKIN SENSITISATION - Category 1B SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3
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