SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by UK REACH Regulation SI 2019/758

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

1.1 Product identifier

Product identifier	:	HS 670
Product name	:	Permafleet® HS Binder 670
Product type	:	Liquid.
Other means of identification	:	4025331241072
Date of issue/ Date of revision	:	10 June 2026
Version	:	1.41
Date of previous issue	:	30 March 2026

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

Identified uses	:	Coating component.
Uses advised against	:	Not for sale to or use by consumers.

1.3 Details of the supplier of the safety data sheet

Axalta Coating Systems Germany GmbH & Co. KG
Märkische Straße 243
DE 42281 Wuppertal
+49 (0)202 529-0

e-mail address of person responsible for this SDS : sds-competence@axalta.com

Axalta Coating Systems UK Ltd.
Unit 1, Quadrant Park, Mundells
GB Welwyn Garden City, Hertfordshire, AL7 1FS
+44 (0)1707 518 000

1.4 Emergency telephone number

Supplier

Telephone number : +(44)-870-8200418

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to UK CLP/GHS

Flam. Liq. 3, H226
Skin Sens. 1, H317
STOT SE 3, H336
Aquatic Chronic 3, H412

The product is classified as hazardous according to UK CLP Regulation SI 2019/720 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.

SECTION 2: Hazards identification

2.2 Label elements

Hazard pictograms :



Signal word : Warning

Contains : n-butyl acetate
Hydrocarbons, C9, aromatics
Reaction mass of bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate
2,3-epoxypropyl neodecanoate
isobutyl methacrylate

Hazard statements : H226 - Flammable liquid and vapour.
H317 - May cause an allergic skin reaction.
H336 - May cause drowsiness or dizziness.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention : P280 - Wear protective gloves.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P273 - Avoid release to the environment.
P261 - Avoid breathing vapour.

Response : P304 + P312 - IF INHALED: Call a POISON CENTER or doctor if you feel unwell.
P302 + P352 - IF ON SKIN: Wash with plenty of water.

Storage : Not applicable.

Disposal : Not applicable.

Supplemental label elements : EUH066 - Repeated exposure may cause skin dryness or cracking.
EUH205 - Contains epoxy constituents. May produce an allergic reaction.

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

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : 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 : None known.

The mixture may be a skin sensitiser. It may also be a skin irritant and repeated contact may increase this effect.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

SECTION 3: Composition/information on ingredients

Product/ingredient name	Identifiers	%	Classification	Type
n-butyl acetate	REACH #: 01-2119485493-29 EC: 204-658-1 CAS: 123-86-4	≥10 - ≤25	Flam. Liq. 3, H226 STOT SE 3, H336 EUH066	[1] [2]
Hydrocarbons, C9, aromatics	REACH #: 01-2119455851-35 EC: 918-668-5	≤14	Flam. Liq. 3, H226 STOT SE 3, H335 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411 EUH066	[1]
2-(2-butoxyethoxy)ethanol	REACH #: 01-2119475104-44 EC: 203-961-6 CAS: 112-34-5	≤3	Eye Irrit. 2, H319	[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	Skin Sens. 1A, H317 Repr. 2, H361 (oral) Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)	[1]
2,3-epoxypropyl neodecanoate	REACH #: 01-2119431597-33 EC: 247-979-2 CAS: 26761-45-5 Index: 607-770-00-2	<1	Skin Sens. 1A, H317 Muta. 2, H341 Repr. 2, H361d Aquatic Chronic 2, H411	[1]
isobutyl methacrylate	REACH #: 01-2119488331-38 EC: 202-613-0 CAS: 97-86-9 Index: 607-113-00-X	≤0.2	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1B, H317 STOT SE 3, H335 **See Section 16 for the full text of the H statements declared above.**	[1]

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 physical, health or environmental hazard
[2] Substance with a workplace exposure limit

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

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

SECTION 4: First aid measures

Skin contact : Wash skin thoroughly with soap and water or use recognised skin cleanser. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

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

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

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

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 : Recommended: alcohol-resistant foam, CO_2, powders, water spray.

Unsuitable extinguishing media : Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard.

Hazardous combustion products : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

5.3 Advice for firefighters

SECTION 5: Firefighting measures

Special protective actions for fire-fighters : Cool closed containers exposed to fire with water. Do not release runoff from fire to drains or watercourses.

Special protective equipment for fire-fighters : Appropriate breathing apparatus may be required.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : Exclude sources of ignition and ventilate the area. Avoid breathing vapour or mist. Refer to protective measures listed in sections 7 and 8.

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 : Do not allow to enter drains or watercourses. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.

6.3 Methods and material for containment and cleaning up

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 (see Section 13). Preferably clean with a detergent. Avoid using solvents.

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

Prevent the creation of flammable or explosive concentrations of vapours in air and avoid vapour concentrations higher than the occupational exposure limits.
In addition, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard.
Mixture may charge electrostatically: always use earthing leads when transferring from one container to another.
Operators should wear antistatic footwear and clothing and floors should be of the conducting type.
Keep away from heat, sparks and flame. No sparking tools should be used.
Avoid contact with skin and eyes. Avoid the inhalation of dust, particulates, spray or mist arising from the application of this mixture. Avoid inhalation of dust from sanding.
Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.
Put on appropriate personal protective equipment (see Section 8).
Never use pressure to empty. Container is not a pressure vessel.
Always keep in containers made from the same material as the original one.
Comply with the health and safety at work laws.
Do not allow to enter drains or watercourses.
Information on fire and explosion protection
Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations.
Notes on joint storage
Keep away from: oxidising agents, strong alkalis, strong acids.
Additional information on storage conditions
Observe label precautions. Store in a dry, cool and well-ventilated area. Keep away from heat and direct sunlight. Keep away from sources of ignition. No smoking. Prevent unauthorised access. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

Seveso Directive - Reporting thresholds

SECTION 7: Handling and storage

Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
P5c	5000 tonnes	50000 tonnes

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

n-butyl acetate

EH40/2005 WELs (United Kingdom (UK), 1/2020)
STEL 15 minutes: 966 mg/m³.
STEL 15 minutes: 200 ppm.
TWA 8 hours: 724 mg/m³.
TWA 8 hours: 150 ppm.

2-(2-butoxyethoxy)ethanol

EH40/2005 WELs (United Kingdom (UK), 1/2020)
TWA 8 hours: 10 ppm.
TWA 8 hours: 67.5 mg/m³.
STEL 15 minutes: 15 ppm.
STEL 15 minutes: 101.2 mg/m³.

Biological exposure indices

No exposure indices known.

Recommended monitoring procedures : Reference should be made to monitoring standards, such as the following: British Standard BS EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) British Standard BS EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) British Standard BS 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

Product/ingredient name	Result
n-butyl acetate	**DNEL - Workers - Short term - Dermal** 11 mg/kg bw/day Effects: Systemic
-	**DNEL - General population - Long term - Oral** 2 mg/kg bw/day Effects: Systemic
-	**DNEL - General population - Short term - Oral** 2 mg/kg bw/day Effects: Systemic
-	**DNEL - General population - Long term - Dermal** 3.4 mg/kg bw/day Effects: Systemic
-	**DNEL - General population - Short term - Dermal** 6 mg/kg bw/day Effects: Systemic

SECTION 8: Exposure controls/personal protection

-	**DNEL - Workers - Short term - Dermal** 11 mg/kg bw/day Effects: Systemic
-	**DNEL - General population - Long term - Inhalation** 12 mg/m³ Effects: Systemic
-	**DNEL - General population - Long term - Inhalation** 35.7 mg/m³ Effects: Local
-	**DNEL - General population - Short term - Inhalation** 300 mg/m³ Effects: Local
-	**DNEL - General population - Short term - Inhalation** 300 mg/m³ Effects: Systemic
-	**DNEL - Workers - Long term - Inhalation** 300 mg/m³ Effects: Local
-	**DNEL - Workers - Short term - Inhalation** 600 mg/m³ Effects: Local
-	**DNEL - Workers - Short term - Inhalation** 600 mg/m³ Effects: Systemic
-	**DNEL - Workers - Long term - Inhalation** 300 mg/m³ Effects: Systemic
Hydrocarbons, C9, aromatics	**DNEL - Workers - Long term - Inhalation** 151 mg/m³ Effects: Systemic
-	**DNEL - Workers - Long term - Dermal** 12.5 mg/kg bw/day Effects: Systemic
-	**DNEL - General population - Long term - Inhalation** 32 mg/m³ Effects: Systemic
-	**DNEL - General population - Long term - Dermal** 7.5 mg/kg bw/day Effects: Systemic
-	**DNEL - General population - Long term - Oral** 7.5 mg/kg bw/day Effects: Systemic
2-(2-butoxyethoxy)ethanol	**DNEL - General population - Long term - Oral** 6.25 mg/kg bw/day Effects: Systemic
-	**DNEL - Workers - Long term - Inhalation** 67.5 mg/m³ Effects: Local

SECTION 8: Exposure controls/personal protection

-	**DNEL - Workers - Short term - Inhalation** 101.2 mg/m³ Effects: Local
Reaction mass of bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	**DNEL - Workers - Long term - Inhalation** 3.53 mg/m³ Effects: Systemic
-	**DNEL - Workers - Long term - Dermal** 2 mg/kg Effects: Systemic
-	**DNEL - General population - Long term - Oral** 0.18 mg/kg bw/day Effects: Systemic
-	**DNEL - General population - Long term - Inhalation** 0.31 mg/m³ Effects: Systemic
-	**DNEL - General population - Long term - Dermal** 0.9 mg/kg bw/day Effects: Systemic
-	**DNEL - Workers - Long term - Inhalation** 1.27 mg/m³ Effects: Systemic
-	**DNEL - Workers - Long term - Dermal** 1.8 mg/kg bw/day Effects: Systemic
2,3-epoxypropyl neodecanoate	**DNEL - General population - Long term - Oral** 2.5 mg/kg bw/day Effects: Systemic
-	**DNEL - General population - Long term - Dermal** 2.5 mg/kg bw/day Effects: Systemic
-	**DNEL - General population - Long term - Inhalation** 4 mg/m³ Effects: Systemic
-	**DNEL - Workers - Long term - Dermal** 4.2 mg/kg bw/day Effects: Systemic
-	**DNEL - Workers - Long term - Inhalation** 5.88 mg/m³ Effects: Systemic
isobutyl methacrylate	**DNEL - General population - Long term - Dermal** 3 mg/kg bw/day Effects: Systemic
-	**DNEL - Workers - Long term - Dermal** 5 mg/kg bw/day Effects: Systemic
-	**DNEL - General population - Long term - Inhalation** 66.5 mg/m³ Effects: Systemic

SECTION 8: Exposure controls/personal protection

-	**DNEL - General population - Long term - Inhalation** 366.4 mg/m³ Effects: Local
-	**DNEL - Workers - Long term - Inhalation** 409 mg/m³ Effects: Local
-	**DNEL - Workers - Long term - Inhalation** 415.9 mg/m³ Effects: Systemic

PNECs

Product/ingredient name	Result
n-butyl acetate	**Soil** 0.09 mg/kg **Fresh water** 0.18 mg/l **Sewage Treatment Plant** 35.6 mg/l **Marine water** 0.018 mg/l **Fresh water sediment** 0.981 mg/kg **Marine water sediment** 0.098 mg/kg
2-(2-butoxyethoxy)ethanol	**Fresh water** 1.1 mg/l **Marine water** 0.11 mg/l **Fresh water sediment** 4.4 mg/kg **Marine water sediment** 0.44 mg/kg **Soil** 0.32 mg/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	**Fresh water** 0.0022 mg/l **Marine water** 0.00022 mg/l **Secondary Poisoning** 0.009 mg/l **Fresh water sediment** 1.05 mg/kg **Marine water sediment** 0.11 mg/kg

SECTION 8: Exposure controls/personal protection

	Soil 0.21 mg/kg
	Sewage Treatment Plant 1 mg/l
isobutyl methacrylate	**Fresh water - Assessment Factors** 0.021 mg/l
	Marine water - Assessment Factors 0.002 mg/l
	Fresh water sediment - Equilibrium Partitioning 5.89 mg/kg
	Marine water sediment - Equilibrium Partitioning 0.589 mg/kg
	Soil - Equilibrium Partitioning 1.16 mg/kg
	Sewage Treatment Plant - Assessment Factors 10 mg/l

8.2 Exposure controls

Appropriate engineering controls : Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapours below the OEL, suitable respiratory protection must be worn.

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 : Use safety eyewear designed to protect against splash of liquids.

Skin protection

Hand protection

There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals.
The breakthrough time must be greater than the end use time of the product.
The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed.
Gloves should be replaced regularly and if there is any sign of damage to the glove material.
Always ensure that gloves are free from defects and that they are stored and used correctly.
The performance or effectiveness of the glove may be reduced by physical/chemical damage and poor maintenance.
Barrier creams may help to protect the exposed areas of the skin but should not be applied once exposure has occurred.

Gloves : Duration / breakthrough time: <1 hour,
Glove material: NBR, nitrile rubber, material thickness as splash protection: at least 0.2 mm, (EN374)
Glove material: NBR, nitrile rubber Material thickness for short-term contact: at least 0.5 mm, (EN374)

The recommendation for the type or types of glove to use when handling this product is based on information from the following source:

Expert judgment

SECTION 8: Exposure controls/personal protection

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.

Body protection : Personnel should wear antistatic clothing made of natural fibres or of high-temperature-resistant synthetic fibres.

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 : If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators.
A management program to ensure safe use including proper fitting, training on handling, duration of use, cleaning and replacement of respirators must be in place.
Recommended:
EN 140 filter mask with AXP3 or ABEK2P3 filter according to EN 14387 or pressurized air respirator according to EN 14594.
Depending on the risk assessment of the workplace, other respirator types might be selected.

Dry sanding, flame cutting and/or welding of the dry paint film will give rise to dust and/or hazardous fumes. Wet sanding/flatting should be used wherever possible. If exposure cannot be avoided by the provision of local exhaust ventilation, suitable respiratory protective equipment should be used.

Environmental exposure controls : Do not allow to enter drains or watercourses.

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 : Milky.

Odour : Not available.

Odour threshold : Not available.

Melting point/freezing point : Technically not possible to measure

Initial boiling point and boiling range : 125 to 200°C (257 to 392°F)

Flammability (solid, gas) : Not available.

Upper/lower flammability or explosive limits : Lower: 0.7%
Upper: 7.5%

Not available.

Flash point : Closed cup: 40°C (104°F)

Auto-ignition temperature : 210°C (410°F)

Decomposition temperature : Not applicable.

pH : Not applicable.

Viscosity : Dynamic (room temperature): 561 mPa·s
Kinematic (room temperature): 552 mm^2/s
Kinematic (40°C): Not available.

Solubility in water : Not available.

Miscible with water : No.

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

Vapour pressure : 0.39 kPa (2.9 mm Hg)

Relative density : Not available.

SECTION 9: Physical and chemical properties

Density	:	1.017 g/cm³
Vapour density	:	Not available.
Explosive properties	:	Not available.
Oxidising properties	:	Not available.
Weight volatiles	:	34.6 % (w/w)
VOC content	:	(2010/75/EU)

Particle characteristics

Median particle size	:	Not applicable.

9.2 Other information

9.2.1 Information with regard to physical hazard classes

Further information Not available.

9.2.2 Other safety characteristics

Miscible with water	:	No.

Further information Not available.

room temperature (=20°C)

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	:	Stable under recommended storage and handling conditions (see Section 7).
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.
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	:	Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result
n-butyl acetate	**Rat - Oral - LD50** 10768 mg/kg Toxic effects: Behavioral - Somnolence (general depressed activity) Lung, Thorax, or Respiration - Other changes Liver - Other changes **Rabbit - Dermal - LD50** >17600 mg/kg **Rat - Inhalation - LC50 Vapour** 21.1 mg/l [4 hours]

SECTION 11: Toxicological information

Hydrocarbons, C9, aromatics	**Rat - Female - Oral - LD50** 3492 mg/kg OECD 401 **Rabbit - Dermal - LD50** >3160 mg/kg OECD 402
2-(2-butoxyethoxy)ethanol	**Rabbit - Dermal - LD50** 2700 mg/kg **Rat - Oral - LD50** 4500 mg/kg Toxic effects: Behavioral - Tetany Lung, Thorax, or Respiration - Dyspnea Liver - Other changes
Reaction mass of bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	**Rat - Male, Female - Oral - LD50** 3230 mg/kg OECD [Acute Oral toxicity - Acute Toxic Class Method] **Rat - Male, Female - Dermal - LD50** >3170 mg/kg OECD [Acute Dermal Toxicity]
2,3-epoxypropyl neodecanoate	**Rat - Oral - LD50** >10 g/kg Toxic effects: Behavioral - Ataxia Gross Metabolite Changes - Weight loss or decreased weight gain **Rat - Dermal - LD50** 3800 mg/kg OECD [Acute Dermal Toxicity]

Conclusion/Summary [Product] : Not available.

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
n-butyl acetate	10768	N/A	N/A	21.1	N/A
Hydrocarbons, C9, aromatics	3492	N/A	N/A	N/A	N/A
2-(2-butoxyethoxy)ethanol	4500	2700	N/A	N/A	N/A
Reaction mass of bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	3230	N/A	N/A	N/A	N/A
2,3-epoxypropyl neodecanoate	N/A	3800	N/A	N/A	N/A

Skin corrosion/irritation

Not available.

Conclusion/Summary [Product] : Not available.

Serious eye damage/eye irritation

Product/ingredient name	Result

SECTION 11: Toxicological information

2-(2-butoxyethoxy)ethanol	**Rabbit - Eyes - Moderate irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 20 mg **Rabbit - Eyes - Severe irritant** Amount/concentration applied: 20 mg

Conclusion/Summary [Product] : Not available.

Respiratory corrosion/irritation

Not available.

Conclusion/Summary [Product] : Not available.

Respiratory or skin sensitization

Not available.

Skin

Conclusion/Summary [Product] : Not available.

Respiratory

Conclusion/Summary [Product] : Not available.

Germ cell mutagenicity

Product/ingredient name	Result
2,3-epoxypropyl neodecanoate	**In vivo - Mammalian-Animal - Somatic** Result: Positive

Conclusion/Summary [Product] : Not available.

Carcinogenicity

Not available.

Conclusion/Summary [Product] : Not available.

Reproductive toxicity

Not available.

Conclusion/Summary [Product] : Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Result
n-butyl acetate	STOT SE 3, H336 (Narcotic effects)
Hydrocarbons, C9, aromatics	STOT SE 3, H335 (Respiratory tract irritation) STOT SE 3, H336 (Narcotic effects)
isobutyl methacrylate	STOT SE 3, H335 (Respiratory tract irritation)

Specific target organ toxicity (repeated exposure)

Not available.

SECTION 11: Toxicological information

Aspiration hazard

Product/ingredient name	Result
Hydrocarbons, C9, aromatics	ASPIRATION HAZARD - Category 1

Information on likely routes of exposure

Not available.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

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

Ingestion : Can cause central nervous system (CNS) depression.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

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

Ingestion : No specific data.

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 [Product] : 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.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result
n-butyl acetate	**Acute - LC50 - Marine water** Fish - Inland silverside - *Menidia beryllina* 185 ppm [96 hours] Effect: Mortality
Hydrocarbons, C9, aromatics	**Acute - LC50** OECD 203 Fish - Trout - *Oncorhynchus mykiss* 9.2 mg/l [96 hours]
2-(2-butoxyethoxy)ethanol	**Acute - LC50 - Fresh water** Fish - Bluegill - *Lepomis macrochirus* 1300 ppm [96 hours] Effect: Mortality
Reaction mass of bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	**Acute - LC50** OECD 203, semistatic Fish - *Brachydanio rerio* 0.9 mg/l [96 hours] **Chronic - NOEC - Fresh water** OECD [Daphnia Magna Reproduction Test] Daphnia 1 mg/l [21 days] **Acute - EC50 - Fresh water** OECD [Alga, Growth Inhibition Test] Algae 1.68 mg/l [72 hours]
2,3-epoxypropyl neodecanoate	**Acute - LC50** OECD [Fish, Acute Toxicity Test] Fish 9.6 mg/l [96 hours] **Chronic - EC50** OECD [Daphnia sp. Acute Immobilization Test and Reproduction Test] Daphnia 4.8 mg/l [48 hours]

Conclusion/Summary [Product] : Not available.

12.2 Persistence and degradability

Not available.

Conclusion/Summary [Product] : Not available.

12.3 Bioaccumulative potential

SECTION 12: Ecological information

Product/ingredient name	$LogP_{ow}$	BCF	Potential
n-butyl acetate	2.3	-	Low
2-(2-butoxyethoxy)ethanol	1	-	Low
2,3-epoxypropyl neodecanoate	4.4	-	High
isobutyl methacrylate	2.95	-	Low

12.4 Mobility in soil

Soil/water partition coefficient : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
n-butyl acetate	No	N/A	N/A	No	N/A	N/A	N/A
Hydrocarbons, C9, aromatics	No	N/A	N/A	No	N/A	N/A	N/A
2-(2-butoxyethoxy)ethanol	No	N/A	N/A	No	N/A	N/A	N/A
Reaction mass of bis (1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	N/A	N/A	N/A	Yes	N/A	N/A	N/A
2,3-epoxypropyl neodecanoate	N/A	N/A	N/A	Yes	N/A	N/A	N/A
isobutyl methacrylate	No	N/A	N/A	No	N/A	N/A	N/A

12.6 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 : The classification of the product may meet the criteria for a hazardous waste.

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	Waste catalogue	
	15 01 10*	packaging containing residues of or contaminated by hazardous substances

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.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN 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.

Additional information

ADR/RID : **Tunnel code** (D/E)

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

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 Transport in bulk according to IMO instruments : Not available.

SECTION 15: Regulatory information

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

UK (GB)/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.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Product/ingredient name	%	Designation [Usage]
mixture 2-(2-butoxyethoxy)ethanol	≥90 ≤3	3 55 [Consumer paint]

Labelling : Not applicable.

SECTION 15: Regulatory information

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category
P5c

National regulations

Product/ingredient name	List name	Name on list	Classification	Notes

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

15.2 Chemical safety assessment : This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms :
ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
GB CLP = UK CLP (EC No 1272/2008) on the Classification, Labelling and Packaging of Substances and Mixtures as amended by (EU Exit) Regulations 2019 No. 720 and amendments
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = GB CLP-specific Hazard statement
IATA = International Air Transport Association
IMDG = International Maritime Dangerous Goods
IMO = International Maritime Organization
N/A = Not available
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
RRN = REACH Registration Number
SGG = Segregation Group
vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification

Classification	Justification
Flam. Liq. 3, H226	On basis of test data
Skin Sens. 1, H317	Calculation method
STOT SE 3, H336	Calculation method
Aquatic Chronic 3, H412	Calculation method

Full text of abbreviated H statements

SECTION 16: Other information

H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H341	Suspected of causing genetic defects.
H361	Suspected of damaging fertility or the unborn child.
H361d	Suspected of damaging the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

Full text of classifications

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

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SECTION 16: Other information