

SAFETY DATA SHEET



Penguard Express EC comp B

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

1.1 Product identifier

Product name : Penguard Express EC comp B
Product code : 60242
Product description : Hardener.
Product type : Liquid.
Other means of identification : Not available.

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

Use in coatings - Industrial use
 Use in coatings - Professional use

1.3 Details of the supplier of the safety data sheet

Jotun A/S
 P.O. Box 2021
 3202 Sandefjord Norway

Jotun Paints (Europe) Ltd.
 Stather Road Flixborough, Scunthorpe North
 Lincolnshire DN15 8RR England

Tel: + 47 33 45 70 00
 Fax: +47 33 45 72 42
 sdsjotun@jotun.no

Tel: +44 1724 400 000
 Fax: +44 1724 400 100
 csd.flixborough@jotun.co.uk

1.4 Emergency telephone number

National advisory body/Poison Centre

Telephone number : Contact NHS Direct; phone 0845 4647 or 111. Open 24/7.

Supplier

Telephone number : +47 33 45 70 00 Jotun Norway (head office)

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 Irrit. 2, H315
 Eye Dam. 1, H318
 Skin Sens. 1, H317
 STOT SE 3, H335
 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.

2.2 Label elements

SECTION 2: Hazards identification

Hazard pictograms

:



Signal word

: Danger.

Hazard statements

: H226 - Flammable liquid and vapour.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H318 - Causes serious eye damage.
H335 - May cause respiratory irritation.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

General

: Not applicable.

Prevention

: P280 - Wear protective gloves. Wear eye or face protection.
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.
P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention.
P362 + P364 - Take off contaminated clothing and wash it before reuse.
P305 + P351 + P338, P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER or doctor.

Storage

: P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
P403 + P235 - Keep cool.

Disposal

: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements

: 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.

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 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.

SECTION 3: Composition/information on ingredients**3.2 Mixtures**

: Mixture

Product/ingredient name	Identifiers	%	Classification	Type
Cashew, nutshell liq., polymer with ethylenediamine and formaldehyde	EC: 614-464-2 CAS: 68413-28-5	≤75	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317	[1]
xylene	REACH #: 01-2119488216-32 EC: 215-535-7 CAS: 1330-20-7 Index: 601-022-00-9	≤25	Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Asp. Tox. 1, H304 Aquatic Chronic 3, H412	[1] [2]
epoxy resin (MW ≤ 700)	REACH #: 01-2119456619-26 EC: 216-823-5 CAS: 1675-54-3 Index: 603-073-00-2	≤10	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1B, H317 Aquatic Chronic 2, H411	[1]
butan-1-ol	REACH #: 01-2119484630-38 EC: 200-751-6 CAS: 71-36-3 Index: 603-004-00-6	≤10	Flam. Liq. 3, H226 Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 STOT SE 3, H336	[1] [2]
ethylbenzene	REACH #: 01-2119489370-35 EC: 202-849-4 CAS: 100-41-4 Index: 601-023-00-4	<10	Flam. Liq. 2, H225 Acute Tox. 4, H332 STOT RE 2, H373 (hearing organs) Asp. Tox. 1, H304 Aquatic Chronic 3, H412	[1] [2]
2,4,6-tris(dimethylaminomethyl) phenol	REACH #: 01-2119560597-27 EC: 202-013-9 CAS: 90-72-2 Index: 603-069-00-0	≤3	Acute Tox. 4, H302 Skin Corr. 1C, H314 Eye Dam. 1, H318	[1]
See Section 16 for the full text of the H statements declared above.				

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.

SECTION 4: First aid measures**4.1 Description of first aid measures****Eye contact**

: Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician.

SECTION 4: First aid measures

- Inhalation** : Get medical attention immediately. Call a poison center or physician. 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. 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. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. 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. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a 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** : Adverse symptoms may include the following:
pain
watering
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
- Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
- Ingestion** : Adverse symptoms may include the following:
stomach pains

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.

See toxicological information (Section 11)

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Recommended: alcohol-resistant foam, CO₂, 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 : 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 dioxide
carbon monoxide
nitrogen oxides

5.3 Advice for firefighters

Special protective actions 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 British standard BS 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. Do not breathe 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

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Absorb with an inert 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. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container

SECTION 6: Accidental release measures

for disposal according to local regulations.

- 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.

When operators, whether spraying or not, have to work inside the spray booth, ventilation is unlikely to be sufficient to control particulates and solvent vapour in all cases. In such circumstances they should wear a compressed air-fed respirator during the spraying process and until such time as the particulates and solvent vapour concentration has fallen below the exposure limits.

- 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 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.

- 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.

Liquid paint and washing water with paint residues must not be emptied into drains or watercourses. It must be delivered to an approved local environmental protection station.

7.2 Conditions for safe storage, including any incompatibilities

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.

Seveso Directive - Reporting thresholds

SECTION 7: Handling and storage**Danger criteria**

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

See Technical Data Sheet / packaging for further information.

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**

Product/ingredient name	Exposure limit values
xylene	EH40/2005 WELs (United Kingdom (UK), 1/2020) [xylene, o-, m-, p- or mixed isomers] Absorbed through skin. STEL 15 minutes: 441 mg/m ³ . TWA 8 hours: 50 ppm. TWA 8 hours: 220 mg/m ³ . STEL 15 minutes: 100 ppm.
butan-1-ol	EH40/2005 WELs (United Kingdom (UK), 1/2020) Absorbed through skin. STEL 15 minutes: 154 mg/m ³ . STEL 15 minutes: 50 ppm.
ethylbenzene	EH40/2005 WELs (United Kingdom (UK), 1/2020) Absorbed through skin. STEL 15 minutes: 552 mg/m ³ . STEL 15 minutes: 125 ppm. TWA 8 hours: 100 ppm. TWA 8 hours: 441 mg/m ³ .

Biological exposure indices

Product/ingredient name	Exposure indices
xylene	EH40/2005 BMGVs (United Kingdom (UK), 1/2020) [Xylene, o-, m-, p- or mixed isomers] BGV: 650 mmol/mol creatinine, methyl hippuric acid [in urine]. Sampling time: post shift.

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
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SECTION 8: Exposure controls/personal protection

xylene

DNEL - General population - Long term - Oral

5 mg/kg bw/day

Effects: Systemic**DNEL - General population - Long term - Inhalation**65.3 mg/m³Effects: Local**DNEL - General population - Long term - Inhalation**65.3 mg/m³Effects: Systemic**DNEL - General population - Long term - Dermal**

125 mg/kg bw/day

Effects: Systemic**DNEL - Workers - Long term - Dermal**

212 mg/kg bw/day

Effects: Systemic**DNEL - Workers - Long term - Inhalation**221 mg/m³Effects: Local**DNEL - Workers - Long term - Inhalation**221 mg/m³Effects: Systemic**DNEL - General population - Short term - Inhalation**260 mg/m³Effects: Local**DNEL - General population - Short term - Inhalation**260 mg/m³Effects: Systemic**DNEL - Workers - Short term - Inhalation**442 mg/m³Effects: Local**DNEL - Workers - Short term - Inhalation**442 mg/m³Effects: Systemic2,2'-[(1-methylethylidene)bis
(4,1-phenyleneoxymethylene)]bisoxirane**DNEL - General population - Long term - Dermal**

89.3 µg/kg bw/day

Effects: Systemic**DNEL - General population - Long term - Oral**

0.5 mg/kg bw/day

Effects: Systemic**DNEL - Workers - Long term - Dermal**

0.75 mg/kg bw/day

Effects: Systemic**DNEL - General population - Long term - Inhalation**0.87 mg/m³Effects: Systemic**DNEL - Workers - Long term - Inhalation**4.93 mg/m³Effects: Systemic

SECTION 8: Exposure controls/personal protection

butan-1-ol

DNEL - General population - Long term - Oral

1.5625 mg/kg bw/day

Effects: Systemic**DNEL - General population - Long term - Dermal**

3.125 mg/kg bw/day

Effects: Systemic**DNEL - General population - Long term - Inhalation**55.357 mg/m³Effects: Systemic**DNEL - General population - Long term - Inhalation**155 mg/m³Effects: Local**DNEL - Workers - Long term - Inhalation**310 mg/m³Effects: Local

ethylbenzene

DMEL - Workers - Long term - Inhalation442 mg/m³Effects: Local**DMEL - Workers - Short term - Inhalation**884 mg/m³Effects: Systemic**DNEL - General population - Long term - Oral**

1.6 mg/kg bw/day

Effects: Systemic**DNEL - General population - Long term - Inhalation**15 mg/m³Effects: Systemic**DNEL - Workers - Long term - Inhalation**77 mg/m³Effects: Systemic**DNEL - Workers - Long term - Dermal**

180 mg/kg bw/day

Effects: Systemic**DNEL - Workers - Short term - Inhalation**293 mg/m³Effects: Local

2,4,6-tris(dimethylaminomethyl)phenol

DMEL - Workers - Long term - Dermal

0.2 mg/kg bw/day

Effects: Systemic**DNEL - Workers - Long term - Inhalation**0.31 mg/m³Effects: Systemic**DNEL - General population - Long term - Oral**

0.075 mg/kg bw/day

Effects: Systemic**DNEL - General population - Short term - Dermal**

0.075 mg/kg bw/day

Effects: Systemic

SECTION 8: Exposure controls/personal protection

DNEL - General population - Long term - Dermal
0.075 mg/kg bw/day
Effects: Systemic

DNEL - General population - Short term - Inhalation
0.13 mg/m³
Effects: Systemic

DNEL - General population - Long term - Inhalation
0.13 mg/m³
Effects: Systemic

DNEL - Workers - Long term - Dermal
0.15 mg/kg bw/day
Effects: Systemic

DNEL - Workers - Long term - Inhalation
0.53 mg/m³
Effects: Systemic

DNEL - Workers - Short term - Dermal
0.6 mg/kg bw/day
Effects: Systemic

DNEL - Workers - Short term - Inhalation
2.1 mg/m³
Effects: Systemic

PNECs

Product/ingredient name

xylene

Result

Fresh water
0.327 mg/l

Marine
0.327 mg/l

Sewage Treatment Plant
6.58 mg/l

Fresh water sediment
12.46 mg/kg dwt

Marine water sediment
12.46 mg/kg dwt

Soil
2.31 mg/kg dwt

2,2'-[(1-methylethylidene)bis
(4,1-phenyleneoxymethylene)]bisoxirane

Fresh water
0.006 mg/l

Marine
0.0006 mg/l

Sewage Treatment Plant
10 mg/l

Fresh water sediment
0.996 mg/l

Marine water sediment
0.0996 mg/l

Soil

SECTION 8: Exposure controls/personal protection

	0.196 mg/l
butan-1-ol	Fresh water 0.082 mg/l Marine 0.0082 mg/l Sewage Treatment Plant 2476 mg/l Fresh water sediment 0.178 mg/kg dwt Marine water sediment 0.0178 mg/kg dwt Soil 0.015 mg/kg dwt
ethylbenzene	Fresh water 0.1 mg/l Marine 0.01 mg/l Sewage Treatment Plant 9.6 mg/l Fresh water sediment 13.7 mg/kg dwt Soil 2.68 mg/kg dwt Secondary Poisoning 20 mg/kg
2,4,6-tris(dimethylaminomethyl)phenol	Fresh water 0.084 mg/l Marine 0.0084 mg/l Sewage Treatment Plant 0.2 mg/l

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.

SECTION 8: Exposure controls/personal protection

Eye/face protection : Safety eyewear complying to EN 166 should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

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

Wear suitable gloves tested to EN 374.

Not recommended, gloves(breakthrough time) < 1 hour: PVC (> 0.5 mm)

Recommended, gloves(breakthrough time) > 8 hours: 4H/Silver Shield® (> 0.07 mm), Teflon (> 0.35 mm), polyvinyl alcohol (PVA) (> 0.3 mm), nitrile rubber (> 0.75 mm)

May be used, gloves(breakthrough time) 4 - 8 hours: Viton® (> 0.7 mm), neoprene (> 0.35 mm), butyl rubber (> 0.4 mm)

For right choice of glove materials, with focus on chemical resistance and time of penetration, seek advice by the supplier of chemical resistant gloves.

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 : Use chemical-resistant protective suit / disposable overall.
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 British Standard BS 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 : If workers are exposed to concentrations above the exposure limit, they must use a respirator according to EN 140. Use respiratory mask with charcoal and dust filter when spraying this product, according to EN 14387 (as filter combination A2-P2). In confined spaces, use compressed-air or fresh-air respiratory equipment. When use of roller or brush, consider use of charcoal filter.

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 : Grey. Red. Yellowish. White.
Odour : Amine-like.

SECTION 9: Physical and chemical properties

Odour threshold	: Not applicable.
Melting point/freezing point	: Not applicable.
Initial boiling point and boiling range	: Not available.
Flammability	: Not applicable.
Upper/lower flammability or explosive limits	: Not available.
Flash point	: Closed cup: 33°C (91.4°F)
Auto-ignition temperature	: Not available.

Ingredient name	°C	°F	Method
xylene	432	809.6	

Decomposition temperature	: Not available.
pH	: Not applicable.
Viscosity	: Dynamic (room temperature): Not available. Kinematic (room temperature): Not available. Kinematic (40°C): >20.5 mm ² /s

Solubility(ies) :

Media	Result
cold water	Not soluble
hot water	Not soluble

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

Vapour pressure : Not available.

Ingredient name	Vapour Pressure at 20°C			Vapour pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
xylene	6.7	0.89				

Evaporation rate	: Not available.
Density	: 0.97 g/cm ³
Vapour density	: Not available.
Explosive properties	: Not available.
Oxidising properties	: Not available.
Particle characteristics	
Median particle size	: Not applicable.

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	: 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**

xylene

Result**Rat - Oral - LD50**

4300 mg/kg

Toxic effects: Liver - Other changes Kidney, Ureter, and Bladder - Other changes**Rabbit - Dermal - TDLo**

4300 mg/kg

Toxic effects: Skin After topical exposure - Corrosive**Rat - Inhalation - LC50 Vapour**

11 mg/l [4 hours]

epoxy resin (MW ≤ 700)

Mouse - Oral - LD50

15600 mg/kg

Toxic effects: Behavioral - Somnolence (general depressed activity) Gastrointestinal - Hypermotility, diarrhea Gross Metabolite Changes - Weight loss or decreased weight gain**Rabbit - Dermal - LD50**

20 g/kg

Toxic effects: Behavioral - Somnolence (general depressed activity) Gastrointestinal - Hypermotility, diarrhea Gross Metabolite Changes - Weight loss or decreased weight gain

butan-1-ol

Rat - Oral - LD50

790 mg/kg

Toxic effects: Liver - Fatty liver degeneration Kidney, Ureter, and Bladder - Other changes Blood - Other changes

ethylbenzene

Rat - Oral - LD50

3500 mg/kg

Toxic effects: Liver - Other changes Kidney, Ureter, and Bladder - Other changes**Rabbit - Dermal - LD50**

>5000 mg/kg

Rat - Male - Inhalation - LC50 Vapour

11 mg/l [4 hours]

2,4,6-tris(dimethylaminomethyl)phenol

Rat - Oral - LD50

500 mg/kg

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)
Penguard Express EC comp B	4854.4	6837.6	N/A	51.3	N/A
xylene	4300	1100	N/A	11	N/A
butan-1-ol	500	N/A	N/A	N/A	N/A
ethylbenzene	3500	N/A	N/A	11	N/A
2,4,6-tris(dimethylaminomethyl)phenol	500	N/A	N/A	N/A	N/A

Skin corrosion/irritation

SECTION 11: Toxicological information

Product/ingredient name	Result
Cashew, nutshell liq., polymer with ethylenediamine and formaldehyde	Mammal - species unspecified - Skin - Irritant
xylene	Rat - Skin - Mild irritant Duration of treatment/exposure: 8 hours Amount/concentration applied: 60 microliters
epoxy resin (MW ≤ 700)	Rabbit - Skin - Mild irritant Amount/concentration applied: 500 milligrams
2,4,6-tris(dimethylaminomethyl)phenol	Rat - Skin - Severe irritant Amount/concentration applied: 0.25 ml

Conclusion/Summary [Product] : Not available.

Serious eye damage/eye irritation

Product/ingredient name	Result
Cashew, nutshell liq., polymer with ethylenediamine and formaldehyde	Mammal - species unspecified - Eyes - Irritant
xylene	Rabbit - Eyes - Mild irritant Amount/concentration applied: 87 milligrams
epoxy resin (MW ≤ 700)	Rabbit - Eyes - Severe irritant Duration of treatment/exposure: 24 hours Amount/concentration applied: 2 milligrams
2,4,6-tris(dimethylaminomethyl)phenol	Rabbit - Eyes - Severe irritant Duration of treatment/exposure: 24 hours Amount/concentration applied: 50 µg

Conclusion/Summary [Product] : Not available.

Respiratory corrosion/irritation

Not available.

Conclusion/Summary [Product] : Not available.

Respiratory or skin sensitization

Product/ingredient name	Result
Cashew, nutshell liq., polymer with ethylenediamine and formaldehyde	Mammal - species unspecified - skin Result: Sensitising
epoxy resin (MW ≤ 700)	Mammal - species unspecified - skin Result: Sensitising

Skin

Conclusion/Summary [Product] : Not available.

Ingredient name	Conclusion/Summary
epoxy resin (MW ≤ 700)	May cause an allergic skin reaction.

Respiratory

Conclusion/Summary [Product] : Not available.

Germ cell mutagenicity

Not available.

SECTION 11: Toxicological information**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**xylene
butan-1-ol**Result**STOT SE 3, H335 (Respiratory tract irritation)
STOT SE 3, H335 (Respiratory tract irritation)
STOT SE 3, H336 (Narcotic effects)**Specific target organ toxicity (repeated exposure)****Product/ingredient name**

ethylbenzene

Result

STOT RE 2, H373 (hearing organs)

Aspiration hazard**Product/ingredient name**xylene
ethylbenzene**Result**ASPIRATION HAZARD - Category 1
ASPIRATION HAZARD - Category 1**Information on likely routes of exposure**

Not available.

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : May cause respiratory irritation.
- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:
pain
watering
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
- Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
- Ingestion** : Adverse symptoms may include the following:
stomach pains

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

SECTION 11: Toxicological information

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	: 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
xylene	Acute - LC50 - Marine water Crustaceans - Daggerblade grass shrimp - <i>Palaemonetes pugio</i> 8500 µg/l [48 hours] <u>Effect</u> : Mortality Acute - LC50 - Fresh water Fish - Fathead minnow - <i>Pimephales promelas</i> <u>Age</u> : 31 days; <u>Size</u> : 18.4 mm; <u>Weight</u> : 0.077 g 13400 µg/l [96 hours] <u>Effect</u> : Mortality
epoxy resin (MW ≤ 700)	Acute - LC50 Fish - <i>pimephales promelas</i> 3.1 mg/l [96 hours] Acute - EC50 Daphnia 1.4 mg/l [48 hours] Chronic - NOEC Fish 0.3 mg/l [21 days]
ethylbenzene	Acute - EC50 Daphnia 2.93 mg/l [48 hours] <u>Effect</u> : Intoxication Acute - LC50 Fish 4.2 mg/l [96 hours] <u>Effect</u> : Mortality Acute - EC50 - Marine water Algae - Diatom - <i>Skeletonema costatum</i>

SECTION 12: Ecological information

7700 µg/l [96 hours]

Effect: Population**Conclusion/Summary [Product]** : Not available.**12.2 Persistence and degradability**

Not available.

Conclusion/Summary [Product] : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
xylene	-	-	Readily
epoxy resin (MW ≤ 700)	-	-	Not readily
ethylbenzene	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
xylene	3.12	8.1 to 25.9	Low
epoxy resin (MW ≤ 700)	2.64 to 3.78	31	Low
butan-1-ol	1	-	Low
ethylbenzene	3.6	-	Low
2,4,6-tris (dimethylaminomethyl) phenol	0.219	-	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
Cashew, nutshell liq., polymer with ethylenediamine and formaldehyde	No	N/A	N/A	No	N/A	N/A	N/A
xylene	No	N/A	No	No	No	N/A	No
epoxy resin (MW ≤ 700)	No	N/A	No	No	No	N/A	No
butan-1-ol	No	N/A	N/A	No	N/A	N/A	N/A
ethylbenzene	N/A	N/A	N/A	Yes	N/A	N/A	N/A
2,4,6-tris (dimethylaminomethyl) phenol	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 : Yes.

Waste catalogue

Waste code	Waste designation
08 01 11*	Waste paint and varnish containing organic solvents or other dangerous 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	Waste catalogue
CEPE Guidelines	15 01 10* packaging containing residues of or contaminated by hazardous substances

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

: **Hazard identification number** 30

Viscous liquid exception This class 3 viscous liquid is not subject to regulation in packagings up to 450 L according to 2.2.3.1.5.1.

Tunnel code (D/E)

ADR/RID: Viscous substance. Not goods of class 3, ref. 2.2.3.1.5 (only applicable to receptacles < 450 litre capacity).

SECTION 14: Transport information

- ADN** : The product is only regulated as an environmentally hazardous substance when transported in tank vessels.
Viscous liquid exception This class 3 viscous liquid is not subject to regulation in packagings up to 450 L according to 2.2.3.1.5.1.
- IMDG** : **Emergency schedules** F-E, S-E
Viscous liquid exception This class 3 viscous liquid is not subject to regulation in packagings up to 450 L according to 2.3.2.5.
 IMDG: Viscous substance. Transport in accordance with 2.3.2.5 of the IMDG Code (only applicable to receptacles < 450 litre capacity).

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.

Ozone depleting substances

Not listed.

Prior Informed Consent (PIC)

Not listed.

Persistent Organic Pollutants

Not listed.

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

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category

P5c

EU regulations

Industrial emissions (integrated pollution prevention and control) - Air : Not listed

SECTION 15: Regulatory information

**Industrial emissions
(integrated pollution
prevention and control) -
Water** : Not listed

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.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

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 : 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
N/A = Not available
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
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 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 STOT SE 3, H335 Aquatic Chronic 3, H412	On basis of test data Calculation method Calculation method Calculation method Calculation method Calculation method

Full text of abbreviated H statements

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful 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.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.

SECTION 16: Other information

H336	May cause drowsiness or dizziness.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Full text of classifications

Acute Tox. 4	ACUTE TOXICITY - Category 4
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 Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Flam. Liq. 2	FLAMMABLE LIQUIDS - Category 2
Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3
Skin Corr. 1C	SKIN CORROSION/IRRITATION - Category 1C
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITISATION - Category 1
Skin Sens. 1B	SKIN SENSITISATION - Category 1B
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

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