

Jotamastic 90 Standard Comp B

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

1.1 Product identifier

Product name : Jotamastic 90 Standard Comp B
Product code : 16561
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

Identified uses

Uses in Coatings - Industrial use
Uses in Coatings - Professional use

See Annex to the Safety data sheet for additional information in the Exposure Scenario(s).

1.3 Details of the supplier of the safety data sheet

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

Tel: +44 17 24 40 00 00
Fax: +44 17 24 40 01 00
SDSJotun@jotun.com

1.4 Emergency telephone number

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

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

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

Flam. Liq. 3, H226
Acute Tox. 4, H302
Skin Corr. 1B, H314
Eye Dam. 1, H318
Skin Sens. 1, H317
Aquatic Chronic 2, H411

2.2 Label elements

Date of issue : 21.11.2017

SECTION 2: Hazards identification

Hazard pictograms



Signal word

: Danger.

Hazard statements

: H226 - Flammable liquid and vapour.
H302 - Harmful if swallowed.
H314 - Causes severe skin burns and eye damage.
H317 - May cause an allergic skin reaction.
H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements

General

: Not applicable.

Prevention

: P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P273 - Avoid release to the environment.

Response

: P391 - Collect spillage.
P304 + P340 + P310 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician.
P301 + P310 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.
P303 + P361 + P353 + P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Immediately call a POISON CENTER or physician.
P333 + P313 - If skin irritation or rash occurs: Get medical attention.
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 physician.

Storage

: P403 - Store in a well-ventilated place.
P235 - Keep cool.

Disposal

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

Hazardous ingredients

: amineepoxyadduct
hydrocarbons, C9-unsaturated, polymerized
3-aminomethyl-3,5,5-trimethylcyclohexylamine
Phenol, methylstyrenated
Phenol, styrenated

Supplemental label elements

: Not applicable.

2.3 Other hazards

Other hazards which do not result in classification

: None known.

SECTION 3: Composition/information on ingredients

Substance/mixture

: Mixture

SECTION 3: Composition/information on ingredients

| Product/ingredient name | Identifiers | % | Classification | | |
|--|--|-----------|---|---------|-------|
| | | | Regulation (EC) No. 1272/2008 [CLP] | Type | Notes |
| amineoxyadduct | CAS: 1075254-00-0 | ≥25 - ≤50 | Acute Tox. 4, H302 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 2, H411 | [1] | - |
| benzyl alcohol | REACH #: 01-2119492630-38 EC: 202-859-9 CAS: 100-51-6 | ≥10 - ≤25 | Acute Tox. 4, H302 Acute Tox. 4, H332 | [1] | - |
| hydrocarbons, C9-unsaturated, polymerized | REACH #: 01-2119555292-40 EC: 615-276-3 CAS: 71302-83-5 | ≥10 - ≤25 | Skin Sens. 1, H317 Aquatic Chronic 3, H412 | [1] | - |
| xylene | REACH #: 01-2119488216-32 EC: 215-535-7 CAS: 1330-20-7 Index: 601-022-00-9 | ≥10 - ≤17 | Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 | [1] [2] | C |
| 3-aminomethyl-3,5, 5-trimethylcyclohexylamine | REACH #: 01-2119514687-32 EC: 220-666-8 CAS: 2855-13-2 Index: 612-067-00-9 | ≤10 | Acute Tox. 4, H302 Acute Tox. 4, H312 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 3, H412 | [1] | - |
| Phenol, methylstyrenated | REACH #: 01-2119555274-38 EC: 270-966-8 CAS: 68512-30-1 | ≤10 | Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 3, H412 | [1] | - |
| Phenol, styrenated | REACH #: 02-2119629611-43 EC: 262-975-0 CAS: 61788-44-1 | ≤10 | Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 2, H411 | [1] | - |
| ethylbenzene | REACH #: 01-2119489370-35 EC: 202-849-4 CAS: 100-41-4 Index: 601-023-00-4 | ≤5 | Flam. Liq. 2, H225 Acute Tox. 4, H332 STOT RE 2, H373 (hearing organs) Asp. Tox. 1, H304 | [1] [2] | - |
| 2-methylpentane-1,5-diamine | EC: 239-556-6 CAS: 15520-10-2 | ≤3 | Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Corr. 1A, H314 Eye Dam. 1, H318 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 or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII

[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

[5] Substance of equivalent concern

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

SECTION 3: Composition/information on ingredients

SECTION 4: First aid measures

4.1 Description of first aid measures

- General** : In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and seek 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.
- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.
- Ingestion** : If swallowed, seek medical advice immediately and show the container or label. Keep person warm and at rest. Do NOT induce vomiting.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the CLP Regulation (EC) No 1272/2008 and is classified for toxicological properties accordingly. See Sections 2 and 3 for details.

Exposure to component solvent vapour concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness.

Solvents may cause some of the above effects by absorption through the skin. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin.

If splashed in the eyes, the liquid may cause irritation and reversible damage.

Ingestion may cause nausea, diarrhea and vomiting.

This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Contains amine epoxy adduct, hydrocarbons, C9-unsaturated, polymerized, 3-aminomethyl-3,5,5-trimethylcyclohexylamine, Phenol, methylstyrenated, Phenol, styrenated. May produce an allergic reaction.

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Causes severe burns. May cause an allergic skin reaction.
- Ingestion** : Harmful if swallowed.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain
watering
redness
- Inhalation** : No specific data.

SECTION 4: First aid measures

- 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.

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. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- Hazardous thermal decomposition 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 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. 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".

SECTION 6: Accidental release measures

- 6.2 Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.
- 6.3 Methods and material for containment and cleaning up**
- Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.
- 6.4 Reference to other sections** : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

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

7.1 Precautions for safe handling

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.

7.2 Conditions for safe storage, including any incompatibilities

SECTION 7: Handling and storage

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.

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

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 |
|-------------------------|--|
| xylene | EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin. STEL: 441 mg/m ³ 15 minutes. STEL: 100 ppm 15 minutes. TWA: 220 mg/m ³ 8 hours. TWA: 50 ppm 8 hours. |
| ethylbenzene | EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin. STEL: 552 mg/m ³ 15 minutes. STEL: 125 ppm 15 minutes. TWA: 100 ppm 8 hours. TWA: 441 mg/m ³ 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.

Derived no effect levels

| Product/ingredient name | Type | Exposure | Value | Population | Effects |
|-------------------------|------|-----------------------|-----------------------|------------|----------|
| benzyl alcohol | DNEL | Short term Inhalation | 450 mg/m ³ | Workers | Systemic |
| | DNEL | Long term Inhalation | 90 mg/m ³ | Workers | Systemic |
| | DNEL | Short term Dermal | 47 mg/kg bw/day | Workers | Systemic |
| | DNEL | Long term Dermal | 9.5 mg/kg bw/day | Workers | Systemic |

SECTION 8: Exposure controls/personal protection

| | | | | | |
|--|--------------|-----------------------|-------------------------|-----------|----------|
| hydrocarbons, C9-unsaturated, polymerized | DNEL | Short term Dermal | 28.5 mg/kg bw/day | Consumers | Systemic |
| | DNEL | Short term Oral | 25 mg/kg bw/day | Consumers | Systemic |
| | DNEL | Long term Dermal | 5.7 mg/kg bw/day | Consumers | Systemic |
| | DNEL | Long term Oral | 5 mg/kg bw/day | Consumers | Systemic |
| | DNEL | Long term Inhalation | 8.11 mg/m ³ | Consumers | Systemic |
| | DNEL | Short term Inhalation | 40.55 mg/m ³ | Consumers | Systemic |
| | DNEL | Long term Dermal | 16.4 mg/kg bw/day | Workers | Systemic |
| | DNEL | Long term Inhalation | 57 mg/m ³ | Workers | Systemic |
| | DNEL | Long term Dermal | 8 mg/kg bw/day | Consumers | Systemic |
| | DNEL | Long term Inhalation | 28 mg/m ³ | Consumers | Systemic |
| xylene | DNEL | Long term Oral | 4 mg/kg bw/day | Consumers | Systemic |
| | DNEL | Short term Inhalation | 289 mg/m ³ | Workers | Systemic |
| | DNEL | Short term Inhalation | 289 mg/m ³ | Workers | Local |
| | DNEL | Long term Dermal | 180 mg/kg bw/day | Workers | Systemic |
| | DNEL | Long term Inhalation | 77 mg/m ³ | Workers | Systemic |
| | DNEL | Long term Dermal | 108 mg/kg bw/day | Consumers | Systemic |
| | DNEL | Long term Inhalation | 14.8 mg/m ³ | Consumers | Systemic |
| | DNEL | Long term Oral | 1.6 mg/kg bw/day | Consumers | Systemic |
| | DNEL | Long term Oral | 0.526 mg/kg bw/day | Consumers | Systemic |
| | DNEL | Long term Dermal | 16.4 mg/kg bw/day | Workers | Systemic |
| 3-aminomethyl-3,5,5-trimethylcyclohexylamine Phenol, methylstyrenated | DNEL | Long term Inhalation | 57 mg/m ³ | Consumers | Systemic |
| | DNEL | Long term Dermal | 8 mg/kg bw/day | Consumers | Systemic |
| | DNEL | Long term Inhalation | 28 mg/m ³ | Consumers | Systemic |
| | DNEL | Long term Oral | 4 mg/kg bw/day | Consumers | Systemic |
| | DNEL | Short term Inhalation | 293 mg/m ³ | Workers | Local |
| | DNEL | Long term Dermal | 180 mg/kg bw/day | Workers | Systemic |
| | DNEL | Long term Inhalation | 77 mg/m ³ | Workers | Systemic |
| | DNEL | Long term Inhalation | 15 mg/m ³ | Consumers | Systemic |
| | DNEL | Long term Oral | 1.6 mg/kg bw/day | Consumers | Systemic |
| | ethylbenzene | | | | |
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[Predicted no effect concentrations](#)

SECTION 8: Exposure controls/personal protection

| Product/ingredient name | Type | Compartment Detail | Value | Method Detail |
|--|------|------------------------|-----------------|---------------|
| benzyl alcohol | PNEC | Fresh water | 1 mg/l | - |
| | PNEC | Marine | 0.1 mg/l | - |
| | PNEC | Sewage Treatment Plant | 39 mg/l | - |
| hydrocarbons, C9-unsaturated, polymerized | PNEC | Fresh water sediment | 5.27 mg/kg dwt | - |
| | PNEC | Marine water sediment | 0.527 mg/kg dwt | - |
| | PNEC | Soil | 0.456 mg/kg dwt | - |
| | PNEC | Fresh water | 54 µg/l | - |
| | PNEC | Marine | 5.4 µg/l | - |
| | PNEC | Sewage Treatment Plant | 2.2 mg/l | - |
| | PNEC | Fresh water sediment | 1584 mg/kg dwt | - |
| xylene | PNEC | Marine water sediment | 158 mg/kg dwt | - |
| | PNEC | Marine water sediment | 158 mg/kg dwt | - |
| | PNEC | Soil | 316.7 mg/kg dwt | - |
| | PNEC | Secondary Poisoning | 200 mg/kg | - |
| | PNEC | Fresh water | 0.327 mg/l | - |
| | PNEC | Marine | 0.327 mg/l | - |
| | PNEC | Sewage Treatment Plant | 6.58 mg/l | - |
| | PNEC | Fresh water sediment | 12.46 mg/kg dwt | - |
| | PNEC | Marine water sediment | 12.46 mg/kg dwt | - |
| | PNEC | Soil | 2.31 mg/kg dwt | - |
| 3-aminomethyl-3,5,5-trimethylcyclohexylamine | PNEC | Fresh water | 0.06 mg/l | - |
| | PNEC | Marine | 0.006 mg/l | - |
| | PNEC | Sewage Treatment Plant | 3.18 mg/l | - |
| Phenol, methylstyrenated | PNEC | Fresh water sediment | 5.784 mg/kg dwt | - |
| | PNEC | Marine water sediment | 0.578 mg/kg dwt | - |
| | PNEC | Soil | 1.121 mg/kg dwt | - |
| | PNEC | Fresh water | 14 µg/l | - |
| | PNEC | Marine | 1.4 µg/l | - |
| | PNEC | Sewage Treatment Plant | 2.4 mg/l | - |
| ethylbenzene | PNEC | Fresh water sediment | 52.9 mg/kg dwt | - |
| | PNEC | Marine water sediment | 5.3 mg/kg dwt | - |
| | PNEC | Soil | 10.5 mg/kg dwt | - |
| | PNEC | Fresh water | 0.1 mg/l | - |
| | PNEC | Marine | 0.01 mg/l | - |
| | PNEC | Sewage Treatment Plant | 9.6 mg/l | - |
| | PNEC | Fresh water sediment | 13.7 mg/kg dwt | - |
| | PNEC | Soil | 2.68 mg/kg dwt | - |
| | PNEC | Secondary Poisoning | 20 mg/kg | - |

8.2 Exposure controls

Appropriate engineering controls

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

Individual protection measures

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** : 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. Wear suitable gloves tested to EN374. May be used, gloves(breakthrough time) 4 - 8 hours: PVC, neoprene Recommended, gloves(breakthrough time) > 8 hours: fluor rubber, Viton®, 4H, Teflon, polyvinyl alcohol (PVA), nitrile rubber, butyl rubber
- 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** : 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** : 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 charcoalfilter.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

| | |
|--|--|
| Physical state | : Liquid. |
| Colour | : Various colours. |
| Odour | : Characteristic. |
| Odour threshold | : Not applicable. |
| pH | : Not applicable. |
| Melting point/freezing point | : Not applicable. |
| Initial boiling point and boiling range | : Lowest known value: 136.1°C (277°F) (ethylbenzene). Weighted average: 228.19°C (442.7°F) |
| Flash point | : Closed cup: 39°C |
| Evaporation rate | : Highest known value: 0.84 (ethylbenzene) Weighted average: 0.37 compared with butyl acetate |
| Flammability (solid, gas) | : Not applicable. |
| Burning time | : Not applicable. |
| Burning rate | : Not applicable. |
| Upper/lower flammability or explosive limits | : 0.8 - 13% |
| Vapour pressure | : Highest known value: 1.2 kPa (9.3 mm Hg) (at 20°C) (ethylbenzene). Weighted average: 0.23 kPa (1.73 mm Hg) (at 20°C) |
| Vapour density | : Highest known value: 3.7 (Air = 1) (benzyl alcohol). Weighted average: 3.7 (Air = 1) |
| Relative density | : 1.016 g/cm ³ |
| Solubility(ies) | : Insoluble in the following materials: cold water and hot water. |
| Partition coefficient: n-octanol/ water | : Not available. |
| Auto-ignition temperature | : Lowest known value: >375°C (>707°F) (hydrocarbons, c9-unsatd., polymd.). |
| Decomposition temperature | : Not available. |
| Viscosity | : <input checked="" type="checkbox"/> Kinematic (40°C): >0.205 cm ² /s (>20.5 mm ² /s) |
| Explosive properties | : Not available. |
| Oxidising properties | : Not available. |

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 | : Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. |
| 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 | : Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

SECTION 11: Toxicological information**11.1 Information on toxicological effects**

There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the CLP Regulation (EC) No 1272/2008 and is classified for toxicological properties accordingly. See Sections 2 and 3 for details.

Exposure to component solvent vapour concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness.

Solvents may cause some of the above effects by absorption through the skin. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin.

If splashed in the eyes, the liquid may cause irritation and reversible damage.

Ingestion may cause nausea, diarrhea and vomiting.

This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Contains amine epoxy adduct, hydrocarbons, C9-unsaturated, polymerized, 3-aminomethyl-3,5,5-trimethylcyclohexylamine, Phenol, methylstyrenated, Phenol, styrenated. May produce an allergic reaction.

| Product/ingredient name | Result | Species | Dose | Exposure |
|--|-------------------------|---------|-------------|----------|
| benzyl alcohol | LD50 Oral | Rat | 1230 mg/kg | - |
| | LC50 Inhalation Vapour | Rat | 20 mg/l | 4 hours |
| xylene | LD50 Oral | Rat | 4300 mg/kg | - |
| | TDL _o Dermal | Rabbit | 4300 mg/kg | - |
| 3-aminomethyl-3,5,5-trimethylcyclohexylamine | LD50 Oral | Rat | 1030 mg/kg | - |
| | LD50 Dermal | Rabbit | >5010 mg/kg | - |
| Phenol, styrenated | LD50 Oral | Rat | 2500 mg/kg | - |
| | LC50 Inhalation Gas. | Rabbit | 4000 ppm | 4 hours |
| ethylbenzene | LD50 Dermal | Rabbit | >5000 mg/kg | - |
| | LD50 Oral | Rat | 3500 mg/kg | - |
| 2-methylpentane-1,5-diamine | LD50 Oral | Rat | 1690 mg/kg | - |

Acute toxicity estimates

| Route | ATE value |
|----------------------|--------------|
| Oral | 1123 mg/kg |
| Dermal | 5340.6 mg/kg |
| Inhalation (vapours) | 35.36 mg/l |

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|-----------------------------|------------------------|---------|-------|-----------------|-------------|
| Phenol, styrenated | Eyes - Mild irritant | Rabbit | - | 0.1 Milliliters | - |
| | Skin - Mild irritant | Rabbit | - | 0.5 Milliliters | - |
| 2-methylpentane-1,5-diamine | Eyes - Severe irritant | Rabbit | - | 0.1 Milliliters | - |
| | Skin - Severe irritant | Rabbit | - | 0.5 Milliliters | - |

Specific target organ toxicity (single exposure)

| Product/ingredient name | Category | Route of exposure | Target organs |
|-----------------------------|------------|-------------------|------------------------------|
| 2-methylpentane-1,5-diamine | Category 3 | Not applicable. | Respiratory tract irritation |

Specific target organ toxicity (repeated exposure)

| Product/ingredient name | Category | Route of exposure | Target organs |
|-------------------------|------------|-------------------|----------------|
| ethylbenzene | Category 2 | Not determined | hearing organs |

SECTION 11: Toxicological information**Aspiration hazard**

| Product/ingredient name | Result |
|-------------------------|--------------------------------|
| ethylbenzene | ASPIRATION HAZARD - Category 1 |

Potential acute health effects

- Eye contact** : Causes serious eye damage.
Inhalation : No known significant effects or critical hazards.
Skin contact : Causes severe burns. May cause an allergic skin reaction.
Ingestion : Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:
 pain
 watering
 redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
 pain or irritation
 redness
 blistering may occur
- Ingestion** : Adverse symptoms may include the following:
 stomach pains

Potential chronic health effects

- 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.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.

SECTION 12: Ecological information**12.1 Toxicity**

| Product/ingredient name | Result | Species | Exposure |
|--|--|---|----------|
| amineoxyadduct | Acute EC50 8.1 mg/l | Algae - Pseudokirchneriella subcapitata | 72 hours |
| 3-aminomethyl-3,5,5-trimethylcyclohexylamine | Acute EC50 5.7 mg/l | Daphnia - Daphnia magna | 48 hours |
| | Acute LC50 7.9 mg/l | Fish - Oncorhynchus Mykiss | 96 hours |
| Phenol, styrenated | Acute EC50 17.4 to 21.5 mg/l Fresh water | Daphnia - Daphnia magna | 48 hours |
| | Acute IC50 37 mg/l | Algae | 72 hours |
| ethylbenzene | Acute EC50 100 mg/l | Algae | 72 hours |
| | Acute EC50 54 mg/l | Daphnia | 48 hours |
| | Acute LC50 25.8 mg/l | Fish | 96 hours |
| ethylbenzene | Acute EC50 7.2 mg/l | Algae | 48 hours |
| | Acute EC50 2.93 mg/l | Daphnia | 48 hours |
| | Acute LC50 4.2 mg/l | Fish | 96 hours |

Conclusion/Summary : This material is toxic to aquatic life with long lasting effects.

12.2 Persistence and degradability

SECTION 12: Ecological information

| Product/ingredient name | Test | Result | Dose | Inoculum |
|-------------------------|------|-----------------------------|------|----------|
| aminepoxyadduct | - | 0 % - Not readily - 28 days | - | - |

Conclusion/Summary : Not available.

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|--|-------------------|------------|------------------|
| aminepoxyadduct | - | - | Not readily |
| benzyl alcohol | - | - | Readily |
| xylene | - | - | Readily |
| 3-aminomethyl-3,5, 5-trimethylcyclohexylamine | - | - | Not readily |
| ethylbenzene | - | - | Readily |

12.3 Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|--|--------------------|-------------|-----------|
| benzyl alcohol | 0.87 | <100 | low |
| hydrocarbons, C9-unsaturated, polymerized | 3.627 | - | low |
| xylene | 3.12 | 8.1 to 25.9 | low |
| 3-aminomethyl-3,5, 5-trimethylcyclohexylamine | 0.99 | - | low |
| Phenol, methylstyrenated | 3.627 | - | low |
| ethylbenzene | 3.6 | - | 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

PBT : Not applicable.

vPvB : Not applicable.

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

Do not allow to enter drains or watercourses. Material and/or container must be disposed of as hazardous waste.

European waste catalogue (EWC) : 08 01 11* Waste paint and varnish containing organic solvents or other dangerous substances

SECTION 14: Transport information

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.

Transport in accordance with ADR/RID, IMDG/IMO and ICAO/IATA and national regulation.

International transport regulations

14.1 UN number : 3469

SECTION 14: Transport information

14.2 UN proper shipping name : PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE. Marine pollutant (aminepoxyadduct, Phenol, styrenated)

14.3 Transport hazard class(es) : 3 (8)



Marking : The environmental hazardous / marine pollutant mark is only applicable for packages containing more than 5 litres for liquids and 5 kg for solids.

14.4 Packing group : III

14.5 Environmental hazards : Yes.

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.

Additional information

ADR / RID : Tunnel restriction code: (D/E)
Hazard identification number: 38
Special provisions: 640E

IMDG : The marine pollutant mark is not required when transported in sizes of ≤ 5 L or ≤ 5 kg.

Emergency schedules (EmS)

F-E, S-C

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code : Not available.

IMDG Code Segregation group : Not available.

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

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 : Not applicable.

Other EU regulations

Europe inventory : Not determined.

Black List Chemicals : Not listed

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

SECTION 15: Regulatory information

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

Chemical Weapons Convention List Schedule I Chemicals : Not listed

Chemical Weapons Convention List Schedule II Chemicals : Not listed

Chemical Weapons Convention List Schedule III Chemicals : Not listed

15.2 Chemical safety assessment : Not applicable.

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

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

| Classification | Justification |
|-------------------------|-----------------------|
| Flam. Liq. 3, H226 | On basis of test data |
| Acute Tox. 4, H302 | Calculation method |
| Skin Corr. 1B, H314 | Calculation method |
| Eye Dam. 1, H318 | Calculation method |
| Skin Sens. 1, H317 | Calculation method |
| Aquatic Chronic 2, H411 | 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. |
| H373 (hearing organs) | May cause damage to organs through prolonged or repeated exposure. (hearing organs) |
| H411 | Toxic to aquatic life with long lasting effects. |
| H412 | Harmful to aquatic life with long lasting effects. |

SECTION 16: Other information

| | | |
|---|-------------------------------------|--|
| Full text of classifications [CLP/GHS] | : Acute Tox. 4, H302 | ACUTE TOXICITY (oral) - Category 4 |
| | Acute Tox. 4, H312 | ACUTE TOXICITY (dermal) - Category 4 |
| | Acute Tox. 4, H332 | ACUTE TOXICITY (inhalation) - Category 4 |
| | Aquatic Chronic 2, H411 | LONG-TERM AQUATIC HAZARD - Category 2 |
| | Aquatic Chronic 3, H412 | LONG-TERM AQUATIC HAZARD - Category 3 |
| | Asp. Tox. 1, H304 | ASPIRATION HAZARD - Category 1 |
| | Eye Dam. 1, H318 | SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1 |
| | Eye Irrit. 2, H319 | SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2 |
| | Flam. Liq. 2, H225 | FLAMMABLE LIQUIDS - Category 2 |
| | Flam. Liq. 3, H226 | FLAMMABLE LIQUIDS - Category 3 |
| | Skin Corr. 1A, H314 | SKIN CORROSION/IRRITATION - Category 1A |
| | Skin Corr. 1B, H314 | SKIN CORROSION/IRRITATION - Category 1B |
| | Skin Irrit. 2, H315 | SKIN CORROSION/IRRITATION - Category 2 |
| | Skin Sens. 1, H317 | SKIN SENSITIZATION - Category 1 |
| | STOT RE 2, H373 (hearing organs) | SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (hearing organs) - Category 2 |
| | STOT SE 3, H335 | SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 |

Date of printing : 21.11.2017

Date of issue/ Date of revision : 21.11.2017

Date of previous issue : 17.12.2016

Version : 5

Notice to reader

The information in this document is given to the best of Jotun's knowledge, based on laboratory testing and practical experience. Jotun's products are considered as semi-finished goods and as such, products are often used under conditions beyond Jotun's control. Jotun cannot guarantee anything but the quality of the product itself. Minor product variations may be implemented in order to comply with local requirements. Jotun reserves the right to change the given data without further notice.

Users should always consult Jotun for specific guidance on the general suitability of this product for their needs and specific application practices.

If there is any inconsistency between different language issues of this document, the English (United Kingdom) version will prevail.

Jotamastic 90 Standard Comp B

Exposure Scenario: Uses in Coatings - Industrial use

| | |
|-------------------------------------|--------------------------------|
| Sector of Use | : Industrial use |
| Process Category | : PROC05 PROC07 PROC08a PROC10 |
| Environmental release category(ies) | : ERC4 |

Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including product transfer and preparation, application by brush, spray by hand or similar methods) and equipment cleaning.

Operational conditions and risk management measures

Control of worker exposure

| | |
|------------------------------------|--|
| Frequency and duration of use | : Covers daily exposures up to 8 hours (unless stated differently) |
| General - Operational conditions | : Assumes use at not more than 20°C above ambient temperature, unless stated differently. Assumes a good basic standard of occupational hygiene is implemented |
| General - Risk management measures | : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Wear suitable coveralls to prevent exposure to the skin. Use suitable eye protection. See Section 8 for information on appropriate personal protective equipment. |

Type of activity or process Risk management measures

| | |
|---|--|
| Preparation of material for application | : Provide extract ventilation to points where emissions occur. |
| Roller, spreader, flow application | : Provide extract ventilation to points where emissions occur. |
| Spraying - Manual | : Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings. Wear a respirator conforming to EN140 with type A/P2 filter or better. |

Control of environmental exposure

| | |
|---|--|
| Organisational measures to prevent/limit release from site | : Prevent environmental discharge consistent with regulatory requirements. |
| Conditions and measures related to external treatment of waste for disposal | : External treatment and disposal of waste should comply with applicable local and/or national regulations. See Section 13 for additional waste treatment information. |
| Conditions and measures related to external recovery of waste | : External recovery and recycling of waste should comply with applicable local and/or national regulations. |

Additional information

The exposure scenario for the mixture is based on the following substances:

REACH#: 01-2119488216-32
 REACH#: 01-2119514687-32
 REACH#: 01-2119456619-26 (from Comp A)

Jotamastic 90 Standard Comp B

Exposure Scenario: Uses in Coatings - Professional use

| | |
|-------------------------------------|--------------------------------|
| Sector of Use | : Professional use |
| Process Category | : PROC05 PROC08a PROC10 PROC11 |
| Environmental release category(ies) | : ERC8a ERC8d |

Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including product transfer and preparation, application by brush, spray by hand or similar methods) and equipment cleaning.

Operational conditions and risk management measures

Control of worker exposure

| | |
|------------------------------------|--|
| Frequency and duration of use | : Covers daily exposures up to 8 hours (unless stated differently) |
| General - Operational conditions | : Assumes use at not more than 20°C above ambient temperature, unless stated differently. Assumes a good basic standard of occupational hygiene is implemented |
| General - Risk management measures | : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Wear suitable coveralls to prevent exposure to the skin. Use suitable eye protection. See Section 8 for information on appropriate personal protective equipment. |

Type of activity or process

Risk management measures

| | |
|---|--|
| Preparation of material for application - Indoor | : Provide extract ventilation to points where emissions occur. Avoid carrying out activities involving exposure for more than 1 hour or Wear a respirator conforming to EN140 with type A/P2 filter or better. |
| Preparation of material for application - Outdoor | : Ensure operation is undertaken outdoors. Wear a respirator conforming to EN140 with type A/P2 filter or better. Avoid carrying out activities involving exposure for more than 1 hour. |
| Equipment cleaning and maintenance | : Drain down system prior to equipment break-in or maintenance. Avoid carrying out activities involving exposure for more than 4 hours. |
| Roller, spreader, flow application - Indoor | : Provide extract ventilation to points where emissions occur. Wear a respirator conforming to EN140 with type A/P2 filter or better. |
| Roller, spreader, flow application - Outdoor | : Ensure operation is undertaken outdoors. Wear a full-face respirator conforming to EN136 with Type A/P2 filter or better. |
| Spraying - Manual - Indoor | : Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings. Wear a full-face respirator conforming to EN136 with Type A/P2 filter or better. |
| Spraying - Manual - Outdoor | : Ensure operation is undertaken outdoors. Wear a full-face respirator conforming to EN136 with Type A/P2 filter or better. Avoid carrying out activities involving exposure for more than 4 hours. |

Control of environmental exposure

| | |
|---|--|
| Organisational measures to prevent/limit release from site | : Prevent environmental discharge consistent with regulatory requirements. |
| Conditions and measures related to external treatment of waste for disposal | : External treatment and disposal of waste should comply with applicable local and/or national regulations. See Section 13 for additional waste treatment information. |
| Conditions and measures related to external recovery of waste | : External recovery and recycling of waste should comply with applicable local and/or national regulations. |

Additional information

The exposure scenario for the mixture is based on the following substances:

REACH#: 01-2119488216-32
 REACH#: 01-2119514687-32
 REACH#: 01-2119456619-26 (from Comp A)