

SAFETY DATA SHEET

ENVIROLINE 225 PART B

Section 1. Chemical product and company identification

A. Product name : ENVIROLINE 225 PART B
Product code : NVA235

B. Relevant identified uses of the substance or mixture and uses advised against

| Identified uses | |
|---|--------|
| Professional application of coatings and inks | |
| Uses advised against | Reason |
| All Other Uses | |

C. Manufacturer : International Farg AB
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 Sweden

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Emergency telephone number (with hours of operation) : +46 8 33 12 31

e-mail address of person responsible for this SDS : sdsfellinguk@akzonobel.com

Section 2. Hazards identification

A. Hazard classification : ACUTE TOXICITY (oral) - Category 4
 ACUTE TOXICITY (inhalation) - Category 4
 SKIN CORROSION/IRRITATION - Category 1
 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
 SKIN SENSITIZATION - Category 1
 CARCINOGENICITY - Category 1A
 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
 ACUTE AQUATIC HAZARD - Category 1
 LONG-TERM AQUATIC HAZARD - Category 1

B. GHS label elements, including precautionary statements

Symbol :






Signal word : Danger

Hazard statements : Harmful if swallowed or if inhaled.
 Causes severe skin burns and eye damage.
 May cause an allergic skin reaction.
 May cause cancer.
 May cause damage to organs through prolonged or repeated exposure.
 Very toxic to aquatic life with long lasting effects.

Precautionary statements

Section 2. Hazards identification

- Prevention** : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Do not breathe vapour. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.
- Response** : Collect spillage. Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician. IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical attention. 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** : Store locked up.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Supplemental label elements** : Wear appropriate respirator when ventilation is inadequate.
- C. Other hazards which do not result in classification** : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

| Ingredient name | Common name | CAS number | % | Classification |
|--|--|-------------|-----------|---|
| crystalline silica, respirable powder | silica, crystalline - quartz | 14808-60-7 | ≥40 - <50 | Carc. 1A, H350 |
| Formaldehyde, polymer with benzenamine, hydrogenated | Formaldehyde, polymer with benzenamine, hydrogenated | 135108-88-2 | ≥10 - <20 | Acute Tox. 4, H302 Skin Corr. 1, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 STOT RE 2, H373 (oral) Aquatic Chronic 3, H412 |
| 4,4'-methylenebis (cyclohexylamine) | Methylenedi (cyclohexylamine) | 1761-71-3 | ≥10 - <20 | Acute Tox. 4, H302 Skin Corr. 1, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 STOT RE 2, H373 (oral) Aquatic Chronic 2, H411 |

Section 3. Composition/information on ingredients

| | | | | |
|---------------------------------------|---|------------|-----------|---|
| titanium dioxide | Titanium dioxide | 13463-67-7 | ≥5 - <10 | Carc. 2, H351 |
| xylene | xylene | 1330-20-7 | ≥1 - <5 | Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H336 STOT RE 1, H372 |
| crystalline silica, respirable powder | Respirable content of crystalline silica in whole product | 14808-60-7 | <10 | Carc. 1A, H350 STOT RE 1, H372 |
| 2,2'-iminodiethylamine | diethylenetriamine | 111-40-0 | ≥1 - <5 | Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 2, H330 Skin Corr. 1, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 STOT SE 3, H335 |
| 4-nonylphenol, branched | phenol, 4-nonyl-, branched | 84852-15-3 | ≥0.3 - <5 | Acute Tox. 4, H302 Skin Corr. 1, H314 Eye Dam. 1, H318 Repr. 2, H361fd (Fertility and Unborn child) Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| 3,6-diazaoctanethylenediamin | triethylenetetramine | 112-24-3 | <10 | Acute Tox. 4, H312 Skin Corr. 1, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 3, H412 |
| bisphenol A | 4,4'-isopropylidenediphenol | 80-05-7 | <10 | Eye Dam. 1, H318 Skin Sens. 1, H317 Repr. 2, H361 (Fertility) STOT SE 3, H335 |
| ethylbenzene | ethylbenzene | 100-41-4 | ≥0.1 - <5 | Flam. Liq. 2, H225 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373 (hearing organs) Asp. Tox. 1, H304 |

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

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

Section 4. First aid measures

- A. 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.
- B. 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.
- C. 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.
- D. Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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.
- E. 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.
- 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.

See toxicological information (Section 11)

Section 5. Firefighting measures

- A. Extinguishing media**
- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

Section 5. Firefighting measures

- B. Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is very 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
 metal oxide/oxides
- C. 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.
- Special precautions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Section 6. Accidental release measures

- A. Personal precautions, protective equipment and emergency procedures** : 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. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- B. 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.
- C. Methods and material for containment and cleaning up**
- Small spill** : Stop leak if without risk. Move containers from spill area. 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. 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 (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

A. Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Section 7. Handling and storage

- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- B. Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. 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. 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.

Section 8. Exposure controls/personal protection

A. Control parameters

Occupational exposure limits

| Ingredient name | Exposure limits |
|---------------------------------------|---|
| crystalline silica, respirable powder | Ministry of Labor (Republic of Korea, 8/2013). TWA: 0.05 mg/m ³ 8 hours. Form: Respirable fraction |
| titanium dioxide | Ministry of Labor (Republic of Korea, 8/2013). TWA: 10 mg/m ³ 8 hours. Form: total dust with less than 1% of free SiO ₂ |
| xylene | Ministry of Labor (Republic of Korea, 8/2013). STEL: 655 mg/m ³ 15 minutes. STEL: 150 ppm 15 minutes. TWA: 435 mg/m ³ 8 hours. TWA: 100 ppm 8 hours. |
| crystalline silica, respirable powder | Ministry of Labor (Republic of Korea, 8/2013). TWA: 0.05 mg/m ³ 8 hours. Form: Respirable fraction |
| 2,2'-iminodiethylamine | Ministry of Labor (Republic of Korea, 8/2013). Absorbed through skin. TWA: 4 mg/m ³ 8 hours. TWA: 1 ppm 8 hours. |
| ethylbenzene | Ministry of Labor (Republic of Korea, 8/2013). STEL: 545 mg/m ³ 15 minutes. STEL: 125 ppm 15 minutes. TWA: 435 mg/m ³ 8 hours. TWA: 100 ppm 8 hours. |

- B. 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.
- 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.

C. Personal protective equipment

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Section 8. Exposure controls/personal protection

- Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Eye protection** : Safety eyewear complying with an approved standard 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.
- Hand protection** : Use chemical resistant gloves classified under Standard EN 374: Protective gloves against chemicals and micro-organisms. Recommended: Viton® or Nitrile gloves. When prolonged or frequently repeated contact may occur, a glove with a protection class of 6 (breakthrough time greater than 480 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 2 or higher (breakthrough time greater than 30 minutes according to EN 374) is recommended. The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier. Barrier creams may help to protect the exposed areas of the skin but should not be applied once exposure has occurred.
- 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.
- 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 9. Physical and chemical properties

A. Appearance

- Physical state** : Liquid.
- Colour** : White.
- B. Odour** : Amine-like.
- C. Odour threshold** : Not available.
- D. pH** : Not applicable.
- E. Melting/freezing point** : Not available.
- F. Boiling point/boiling range** : Lowest known value: >220°C (>428°F)(Formaldehyde, polymer with benzenamine, hydrogenated).
- G. Flash point** : Closed cup: 66°C (150.8°F)
- Fire point** : Not available.
- H. Evaporation rate** : Not available.
- I. Flammability (solid, gas)** : Not available.
- J. Lower and upper explosive (flammable) limits** : Not available.
- K. Vapour pressure** : Not available.
- L. Solubility** : Insoluble in the following materials: cold water.

Section 9. Physical and chemical properties

- M. Vapour density : Not available.
- N. Relative density : 1.48
- O. Partition coefficient: n-octanol/water : Not available.
- P. Auto-ignition temperature : Not available.
- Q. Decomposition temperature : Not available.
- R. Viscosity : Kinematic (room temperature): 6501 mm²/s (6501 cSt)
- S. Molecular weight : Not applicable.

Section 10. Stability and reactivity

- A. Chemical stability : The product is stable.
Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.
- B. Conditions to avoid : No specific data.
- C. Incompatible materials : No specific data.
- D. Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

- A. Information on likely routes of exposure : Not available.

Potential acute health effects

- Inhalation** : Harmful if inhaled. May give off gas, vapour or dust that is very irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Ingestion** : Harmful if swallowed. May cause burns to mouth, throat and stomach.
- Skin contact** : Causes severe burns. May cause an allergic skin reaction.
- Eye contact** : Causes serious eye damage.

Over-exposure signs/symptoms

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

- B. Health hazards

Acute toxicity

:

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Section 11. Toxicological information

| Product/ingredient name | Result | Species | Dose | Exposure |
|------------------------------|---------------------------------|---------|-------------|----------|
| xylene | LD50 Oral | Rat | 4300 mg/kg | - |
| | LC50 Inhalation Dusts and mists | Rat | 0.07 mg/l | 4 hours |
| 2,2'-iminodiethylamine | LD50 Dermal | Rabbit | 1090 mg/kg | - |
| | LD50 Oral | Rat | 1080 mg/kg | - |
| 4-nonylphenol, branched | LD50 Oral | Rat | 1300 mg/kg | - |
| | LD50 Dermal | Rabbit | 805 mg/kg | - |
| 3,6-diazaoctanethylenediamin | LD50 Oral | Rat | 2500 mg/kg | - |
| | LD50 Oral | Rat | 1200 mg/kg | - |
| bisphenol A | LC50 Inhalation Gas. | Rabbit | 4000 ppm | 4 hours |
| | LD50 Dermal | Rabbit | 17800 mg/kg | - |
| ethylbenzene | LD50 Oral | Rat | 3500 mg/kg | - |

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|-------------------------------------|--------------------------|---------|-------|--------------------------------------|-------------|
| 4,4'-methylenebis (cyclohexylamine) | Eyes - Severe irritant | Rabbit | - | 24 hours 10 microliters | - |
| | Skin - Mild irritant | Human | - | 72 hours 300 Micrograms Intermittent | - |
| 2,2'-iminodiethylamine | Skin - Moderate irritant | Rabbit | - | 500 milligrams | - |
| 4-nonylphenol, branched | Eyes - Severe irritant | Rabbit | - | 100 milligrams | - |
| | Skin - Severe irritant | Rabbit | - | 24 hours 500 milligrams | - |
| 3,6-diazaoctanethylenediamin | Eyes - Moderate irritant | Rabbit | - | 24 hours 20 milligrams | - |
| | Eyes - Severe irritant | Rabbit | - | 49 milligrams | - |
| | Skin - Severe irritant | Rabbit | - | 24 hours 5 milligrams | - |
| | Skin - Severe irritant | Rabbit | - | 490 milligrams | - |
| bisphenol A | Eyes - Severe irritant | Rabbit | - | 24 hours 250 Micrograms | - |
| | Skin - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 250 milligrams | - |
| ethylbenzene | Eyes - Severe irritant | Rabbit | - | 500 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 24 hours 15 milligrams | - |

Sensitisation

Not available.

CMR - ISHA Article 42 Public Notice No 2013-38 Occupational Exposure Limits

| Product/ingredient name | CAS number | Classification |
|-----------------------------|------------|----------------|
| Silica (Crystalline quartz) | 14808-60-7 | Carc. 1A |
| Titanium dioxide | 13463-67-7 | Carc. 2 |
| Silica (Crystalline quartz) | 14808-60-7 | Carc. 1A |
| Ethyl benzene | 100-41-4 | Carc. 2 |

Section 11. Toxicological information

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

| Name | Category | Route of exposure | Target organs |
|------------------------|------------|-------------------|------------------------------|
| xylene | Category 3 | Not applicable. | Narcotic effects |
| 2,2'-iminodiethylamine | Category 3 | Not applicable. | Respiratory tract irritation |
| bisphenol A | Category 3 | Not applicable. | Respiratory tract irritation |
| ethylbenzene | Category 3 | Not applicable. | Respiratory tract irritation |

Specific target organ toxicity (repeated exposure)

| Name | Category | Route of exposure | Target organs |
|--|------------|-------------------|----------------|
| Formaldehyde, polymer with benzenamine, hydrogenated | Category 2 | Oral | Not determined |
| 4,4'-methylenebis(cyclohexylamine) | Category 2 | Oral | Not determined |
| xylene | Category 1 | Not determined | Not determined |
| crystalline silica, respirable powder | Category 1 | Not determined | Not determined |
| ethylbenzene | Category 2 | Not determined | hearing organs |

Aspiration hazard

| Name | Result |
|--------------|--------------------------------|
| ethylbenzene | ASPIRATION HAZARD - Category 1 |

Potential chronic health effects

Chronic toxicity

Not available.

- General** : May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- Carcinogenicity** : May cause cancer. Risk of cancer depends on duration and level of exposure.
- 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.

ATE value

Section 11. Toxicological information

| Route | Result |
|------------------------------|---------------|
| Oral | 1653.9 mg/kg |
| Dermal | 10266.7 mg/kg |
| Inhalation (vapours) | 179.9 mg/l |
| Inhalation (dusts and mists) | 1.965 mg/l |

Section 12. Ecological information

A. Ecotoxicity

| Product/ingredient name | Result | Species | Exposure |
|------------------------------|--|--|----------|
| xylene | Acute LC50 8500 µg/l Marine water | Crustaceans - Palaemonetes pugio | 48 hours |
| 4-nonylphenol, branched | Acute LC50 13400 µg/l Fresh water | Fish - Pimephales promelas | 96 hours |
| | Acute EC50 0.03 mg/l Marine water | Algae - Skeletonema costatum | 72 hours |
| | Acute EC50 0.027 mg/l Marine water | Algae - Skeletonema costatum | 96 hours |
| | Acute LC50 0.047 mg/l Marine water | Crustaceans - Americamysis bahia - Juvenile (Fledgling, Hatchling, Weanling) | 48 hours |
| | Acute LC50 17 µg/l Marine water | Fish - Pleuronectes americanus - Larvae | 96 hours |
| | Chronic EC10 0.012 mg/l Marine water | Algae - Skeletonema costatum | 96 hours |
| | Chronic NOEC 7.4 µg/l Fresh water | Fish - Pimephales promelas - Embryo | 33 days |
| 3,6-diazaoctanethylenediamin | Acute EC50 3700 µg/l Fresh water | Algae - Pseudokirchneriella subcapitata | 96 hours |
| | Acute LC50 33900 µg/l Fresh water | Daphnia - Daphnia magna | 48 hours |
| ethylbenzene | Acute EC50 3.6 mg/l Fresh water | Algae - Pseudokirchneriella subcapitata | 96 hours |
| | Acute LC50 18.4 to 25.4 mg/l Fresh water | Daphnia - Daphnia magna - Neonate | 48 hours |
| | Acute LC50 5.1 to 5.7 mg/l Marine water | Fish - Menidia menidia | 96 hours |

B. Persistence and degradability

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|-------------------------|-------------------|------------|------------------|
| ethylbenzene | - | - | Readily |

C. Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|-------------------------------------|--------------------|--------------|-----------|
| 4,4'-methylenebis (cyclohexylamine) | 2.03 | - | low |
| titanium dioxide | - | 352 | low |
| xylene | 3.12 | 8.1 to 25.9 | low |
| 2,2'-iminodiethylamine | -5.58 | 4.466835921 | low |
| 4-nonylphenol, branched | 5.4 | 251.18864315 | low |
| 3,6-diazaoctanethylenediamin | -1.66 to -1.4 | - | low |
| bisphenol A | 3.4 | 43.651583224 | low |
| ethylbenzene | 3.6 | 15 | low |

D. Mobility in soil

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

Section 12. Ecological information





E. Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

A. Disposal methods : 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. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

B. Disposal 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. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

| | UN | IMDG | IATA |
|--------------------------------------|--|--|--|
| A. UN number | UN3066 | UN3066 | UN3066 |
| B. UN proper shipping name | PAINT | PAINT. Marine pollutant (4,4'-methylenebis (cyclohexylamine), 4-nonylphenol, branched) | PAINT |
| C. Transport hazard class(es) | 8  | 8   | 8  |
| D. Packing group | II | II | II |
| E. Environmental hazards | No. | Yes. | No. |
| F. Additional information | - | The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. | The environmentally hazardous substance mark may appear if required by other transportation regulations. |

IMDG Code Segregation group : Not applicable.

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.

Section 15. Regulatory information

A. Regulation according to ISHA

ISHA article 37 (Harmful substances prohibited from manufacture) : The following components are listed: Nonylphenols and Nonylphenol ethoxylates

ISHA article 38 (Harmful substances requiring permission) : None of the components are listed.

Article 2 of Youth Protection Act on Substances Hazardous to Youth : Not applicable.

Exposure Limits of Chemical Substances and Physical Factors

The following components have an OEL:

crystalline silica, respirable powder

titanium dioxide

Xylene

crystalline silica, respirable powder

2,2'-iminodiethylamine

ethylbenzene

ISHA Enforcement Regs Annex 11-3 (Exposure standards established for harmful factors) : None of the components are listed.

ISHA Enforcement Regs Annex 11-4 (Harmful factors subject to Work Environment Measurement) : The following components are listed: Diethylene triamine; Quartz; Quartz; Xylene, o, m,p-isomers; Ethylbenzene; Titanium dioxide

ISHA Enforcement Regs Annex 12-2 (Harmful Factors Subject to Special Health Check-up) : The following components are listed: Diethylenetriamine; Xylene; Ethylbenzene

Standard of Industrial Safety and Health Annex 12 (Hazardous substances subject to control) : The following components are listed: Diethylene triamine; Xylene; Ethyl benzene; Titanium dioxide

B. Regulation according to Chemicals Control Act

K-Reach Article 20 (Toxic chemicals) : Not applicable

K-Reach Article 27 (Prohibited) : None of the components are listed.

K-Reach Article 27 (Restricted) : The following components are listed: Nonylphenols and Nonylphenol ethoxylates

CSCA Article 11 (TRI) : The following components are listed: 4,4'-Bisphenol A; Xylene; Ethylbenzene; Branched 4-nonylphenol

Korea inventory : Not determined.

CSCA Article 39 (Accident Precaution Chemicals) : None of the components are listed.

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Section 15. Regulatory information

- C. Dangerous Materials Safety Management Act** : Class: Class 4 - Flammable Liquid
Item: 4. Class 2 petroleum - Water-insoluble liquid
Threshold: 1000 L
Danger category: III
Signal word: Contact with sources of ignition prohibited
- D. Wastes regulation** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- E. Regulation according to other foreign laws**
- Europe inventory** : Not determined.
- United States inventory (TSCA 8b)** : Not determined.
- Japan inventory** : **Japan inventory (ENCS)**: Not determined.
Japan inventory (ISHL): Not determined.

Section 16. Other information

- A. References** : Not available.
- B. Date of issue/Date of revision** : 31/05/2017
- C. Version** : 3
Date of printing : 31/05/2017
- D. Other**
- ▣ Indicates information that has changed from previously issued version.

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

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Section 16. Other information

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