

SAFETY DATA SHEET

Intertuf 262 Part B

Section 1. Chemical product and company identification

A. Product name : Intertuf 262 Part B

Product code : KHA062

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 Paint Ltd.

Stoneygate Lane

Felling

Gateshead

Tyne and Wear

NE10 0JY UK

Tel: +44 (0)191 469 6111

Fax: +44 (0)191 438 3711

Emergency telephone number (with hours of operation) : +44 (0)191 469 6111 (24H)

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

Section 2. Hazards identification

A. Hazard classification :

- FLAMMABLE LIQUIDS - Category 3
- SKIN CORROSION/IRRITATION - Category 2
- SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
- SKIN SENSITIZATION - Category 1
- CARCINOGENICITY - Category 2
- SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
- SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
- SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1
- LONG-TERM AQUATIC HAZARD - Category 3

B. GHS label elements, including precautionary statements

Symbol :



Signal word :

Danger

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Section 2. Hazards identification

Hazard statements : Flammable liquid and vapour.
Causes serious eye damage.
Causes skin irritation.
May cause an allergic skin reaction.
Suspected of causing cancer.
May cause respiratory irritation.
May cause drowsiness or dizziness.
Causes damage to organs through prolonged or repeated exposure.
Harmful to aquatic life with long lasting effects.

Precautionary statements

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. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. 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 : 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. Call a POISON CENTER or physician if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. 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. Store in a well-ventilated place. Keep cool.

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
butan-1-ol	butan-1-ol	71-36-3	≥30 - <35	Flam. Liq. 3, H226 Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 STOT SE 3, H336
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	Fatty acids, C18-unsatd., dimers, polymers with tall-oil fatty acids and triethylenetetramine	68082-29-1	≥20 - <30	Skin Irrit. 2, H315 Eye Dam. 1, H318

Section 3. Composition/information on ingredients

xylene	xylene	1330-20-7	≥10 - <15	Skin Sens. 1, H317 Aquatic Chronic 2, H411 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
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
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
ethylenediamine	1,2-diaminoethane	107-15-3	<10	Flam. Liq. 3, H226 Acute Tox. 4, H302 Acute Tox. 3, H311 Acute Tox. 4, H332 Skin Corr. 1, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317
Formaldehyde, solution	formaldehyde ...%	50-00-0	<0.1	Acute Tox. 3, H301 Acute Tox. 3, H311 Acute Tox. 2, H330 Skin Corr. 1, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Carc. 1A, H350 Aquatic Acute 1, H400

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.

Section 4. First aid measures

- 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 dry chemical, CO₂, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.
- B. Specific hazards arising from the chemical** : 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 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.

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Section 5. Firefighting measures

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen 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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

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. 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.
- 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.
- C. 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 (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 sensitisation problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. 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. 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

Section 7. Handling and storage

- 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.
- B. 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. Vapours are heavier than air and may spread along floors. Separate from oxidizing 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.

Section 8. Exposure controls/personal protection

A. Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
butan-1-ol	Ministry of Labor (Republic of Korea, 8/2013). Absorbed through skin. TWA: 60 mg/m ³ 8 hours. TWA: 20 ppm 8 hours.
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.
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.
ethylenediamine	Ministry of Labor (Republic of Korea, 8/2013). Absorbed through skin. TWA: 25 mg/m ³ 8 hours. TWA: 10 ppm 8 hours.
Formaldehyde, solution	Ministry of Labor (Republic of Korea, 8/2013). STEL: 1.5 mg/m ³ 15 minutes. STEL: 1 ppm 15 minutes. TWA: 0.75 mg/m ³ 8 hours. TWA: 0.5 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. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Section 8. Exposure controls/personal protection

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

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. Recommended : multi-gas/ vapour and particulate filter

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. 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.

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 : Various

B. Odour : Solvent.

C. Odour threshold : Not available.

D. pH : Not applicable.

E. Melting/freezing point : Not available.

F. Boiling point/boiling range : Lowest known value: 119°C (246.2°F) (butan-1-ol).

G. Flash point : Closed cup: 34°C (93.2°F)

Section 9. Physical and chemical properties

Fire point	: Not available.
H. Evaporation rate	: Not available.
I. Flammability (solid, gas)	: Not available.
J. Lower and upper explosive (flammable) limits	: Greatest known range: Lower: 1.4% Upper: 11.3% (butan-1-ol)
K. Vapour pressure	: Not available.
L. Solubility	: Insoluble in the following materials: cold water.
M. Vapour density	: Not available.
N. Relative density	: 0.9
O. Partition coefficient: n-octanol/water	: Not available.
P. Auto-ignition temperature	: Not available.
Q. Decomposition temperature	: Not available.
R. Viscosity	: Kinematic (room temperature): 222 mm ² /s (222 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	: 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.
C. Incompatible materials	: Reactive or incompatible with the following materials: oxidizing materials
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.
<u>Potential acute health effects</u>	
Inhalation	: Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Ingestion	: Can cause central nervous system (CNS) depression. Irritating to mouth, throat and stomach.
Skin contact	: Causes skin irritation. May cause an allergic skin reaction.
Eye contact	: Causes serious eye damage.
<u>Over-exposure signs/symptoms</u>	

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Section 11. Toxicological information

Inhalation	: Adverse symptoms may include the following: respiratory tract irritation coughing nausea or vomiting headache drowsiness/fatigue dizziness/vertigo muscle weakness unconsciousness
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

Product/ingredient name	Result	Species	Dose	Exposure
butan-1-ol	LC50 Inhalation Vapour	Rat	24 mg/l	4 hours
	LD50 Dermal	Rabbit	3400 mg/kg	-
	LD50 Oral	Rat	790 mg/kg	-
xylene ethylbenzene	LD50 Oral	Rat	4300 mg/kg	-
	LC50 Inhalation Gas.	Rabbit	4000 ppm	4 hours
	LD50 Dermal	Rabbit	17800 mg/kg	-
3, 6-diazaoctanethylenediamin	LD50 Oral	Rat	3500 mg/kg	-
	LD50 Dermal	Rabbit	805 mg/kg	-
	LD50 Oral	Rat	2500 mg/kg	-
ethylenediamine Formaldehyde, solution	LD50 Oral	Rat	1200 mg/kg	-
	LC50 Inhalation Gas.	Rat	250 ppm	4 hours
	LD50 Dermal	Rabbit	270 mg/kg	-
	LD50 Oral	Rat	100 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
butan-1-ol	Eyes - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
	Eyes - Severe irritant	Rabbit	-	0.005 Milliliters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
ethylbenzene	Eyes - Severe irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 15 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
3, 6-diazaoctanethylenediamin	Eyes - Severe irritant	Rabbit	-	49 milligrams	-
	Skin - Severe irritant	Rabbit	-	24 hours 5 milligrams	-
	Skin - Severe irritant	Rabbit	-	490 milligrams	-
ethylenediamine	Eyes - Severe irritant	Rabbit	-	24 hours	-

Section 11. Toxicological information

Formaldehyde, solution	Eyes - Severe irritant	Rabbit	-	750 Micrograms	-
	Skin - Moderate irritant	Rabbit	-	750 Micrograms	-
	Skin - Severe irritant	Rabbit	-	450 milligrams	-
	Eyes - Mild irritant	Human	-	24 hours 10 milligrams	-
	Eyes - Severe irritant	Rabbit	-	6 minutes 1 parts per million	-
	Eyes - Severe irritant	Rabbit	-	24 hours 750 Micrograms	-
	Skin - Mild irritant	Human	-	750 Micrograms	-
	Skin - Mild irritant	Rabbit	-	72 hours 150 Micrograms	-
	Skin - Moderate irritant	Rabbit	-	Intermittent 540 milligrams	-
	Skin - Severe irritant	Rabbit	-	24 hours 50 milligrams	-
	Skin - Severe irritant	Human	-	24 hours 2 milligrams	-
				0.01 Percent	-

Sensitisation

Not available.

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

Product/ingredient name	CAS number	Classification
Ethyl benzene	100-41-4	Carc. 2
Formaldehyde	50-00-0	Carc. 1A

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
butan-1-ol	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
xylene	Category 3	Not applicable.	Narcotic effects
ethylbenzene	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

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Section 11. Toxicological information

Name	Category	Route of exposure	Target organs
xylene	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	: Causes damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Carcinogenicity	: Suspected of causing 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

Route	Result
Oral	2297.2 mg/kg
Dermal	4692 mg/kg
Inhalation (vapours)	88.27 mg/l

Section 12. Ecological information

A. Ecotoxicity

Product/ingredient name	Result	Species	Exposure
butan-1-ol	Acute EC50 1983 to 2072 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1910 mg/l Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
xylene	Acute LC50 8500 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 13400 µg/l Fresh water	Fish - Pimephales promelas	96 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
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
ethylenediamine	Acute EC50 100000 µg/l Fresh water	Algae - Chlorella pyrenoidosa	96 hours
	Acute LC50 46000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1544700 µg/l Fresh water	Fish - Poecilia reticulata	96 hours
	Chronic NOEC 160 µg/l Fresh water	Daphnia - Daphnia magna	21 days
Formaldehyde, solution	Acute EC50 0.788 mg/l Marine water	Algae - Ulva pertusa	96 hours

Section 12. Ecological information

	Acute EC50 12.98 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute EC50 14000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1.41 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Chronic NOEC 100 µg/l Marine water	Algae - Phyllospora comosa - Zygote	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
butan-1-ol	1	-	low
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	-	77.4	low
xylene	3.12	8.1 to 25.9	low
ethylbenzene	3.6	15	low
3,6-diazaoctanethylenediamine	-1.66 to -1.4	-	low
ethylenediamine	-7.02	-	low

D. Mobility in soil




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

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. 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

	UN	IMDG	IATA
A. UN number	UN1263	UN1263	UN1263
B. UN proper shipping name	PAINT	PAINT	PAINT
C. Transport hazard class(es)	3 	3 	3 
D. Packing group	III	III	III
E. Environmental hazards	No.	No.	No.
F. Additional information	-	-	-

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) : None of the components are listed.

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:

butan-1-ol

Xylene

ethylbenzene

ethylenediamine

Formalin and mixtures which contain 1% or more as Formaldehyde

ISHA Enforcement Regs Annex 11-3 (Exposure standards established for harmful factors) : The following components are listed: Formaldehyde

ISHA Enforcement Regs Annex 11-4 (Harmful factors subject to Work Environment Measurement) : The following components are listed: Xylene, o,m,p-isomers; Ethylbenzene; n-Butyl alcohol

Section 15. Regulatory information

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

Standard of Industrial Safety and Health Annex 12 (Hazardous substances subject to control) : The following components are listed: Xylene; Ethyl benzene; n-Butyl alcohol

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) : None of the components are listed.

CSCA Article 11 (TRI) : The following components are listed: Xylene; Ethylbenzene

Korea inventory : Not determined.

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

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 : 05/06/2017

C. Version : 3

Date of printing : 05/06/2017

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)

Section 16. Other information

UN = United Nations

Notice to reader

IMPORTANT NOTE: the information contained in this data sheet (as may be amended from time to time) is not intended to be exhaustive and is presented in good faith and believed to be correct as of the date on which it is prepared. It is the user's responsibility to verify that this data sheet is current prior to using the product to which it relates.

Persons using the information must make their own determinations as to the suitability of the relevant product for their purposes prior to use. Where those purposes are other than as specifically recommended in this safety data sheet, then the user uses the product at their own risk.

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