



MATERIAL SAFETY DATA SHEET

421 EPOXY HARDENER

Effective Date : March 2012

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I. Identification

MANUFACTURER: Norski Holdings Ltd, 10 Northpoint Street, Plimmerton, 5024 New Zealand

PRODUCT NAME: 421 Epoxy Resin Hardener

PRODUCE CODE: 421 Epoxy Resin Hardener

RECOMMENDED USES: Construction of fibre reinforced equipment and fittings. Suitable for construction of recreational water craft. Corrosion resistant flooring and coatings.

HSNO CLASSIFICATION: **6.1C:** (dermal) Acutely toxic; **6.1C:** (oral) Acutely toxic; **6.5B:** (contact) Contact sensitisers; **6.8B:** Suspected human reproductive or developmental toxicants; **6.9A:** (oral) Toxic to human target organs or systems; **6.9B:** (dermal) Harmful to human target organs or systems; **8.2C:** Corrosive to dermal tissue; **8.3A:** Corrosive to ocular tissue; **9.1B** (algal) Very ecotoxic in the aquatic environment; **9.1C** (crustacean) Harmful in the aquatic environment; **9.3B:** Ecotoxic to terrestrial vertebrates.

CHEMICAL NAME: Isophoronediamine; **CAS NO.** 2855-13-2; **WEIGHT %:** 40 - 60

CHEMICAL NAME: Formaldehyde, polymer with N, N'-Bis(2-aminoethyl)-1,2-ethanediamine and phenol; **CAS NO.** 32610-77-8; **WEIGHT %:** 40 - 60

Other ingredients determined not to be hazardous **WEIGHT** To 100

II. Physical Data

BOILING POINT: 247°C (477°F)

MELTING/FREEZING POINT: 10°C (50°F)

SOLUBILITY/WATER: Not Miscible.

FLASH POINT: 112°C (closed cup).

FLAMMABLE LIMITS: LFL: Not available; UFL: Not available.

AUTO-IGNITION: >300°C.

SPECIFIC GRAVITY/DENSITY: 0.99 g/cm³ [25°C (77°F)]

VAPOUR PRESSURE: 0.01 mbar at 25°C

VAPOUR DENSITY: >1 [Air = 1]

pH: 10

APPEARANCE, COLOUR AND ODOUR: Liquid, amber colour, ammonia odour.

III. First Aid

INHALATION: Remove victim to fresh air and provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get medical attention.

SKIN CONTACT: Remove contaminated clothing/shoes and wipe excess from skin. Flush skin with water for at least 15 minutes. Follow by washing with soap and water. If irritation occurs, get medical attention. Do not reuse clothing until cleaned. Contaminated leather articles, including shoes, cannot be decontaminated and should be destroyed to prevent reuse.

EYE CONTACT: Flush eyes with plenty of water for 15 minutes while holding eyelids open. Get medical attention.

INGESTION: Do not induce vomiting. Rinse mouth with water. Give plenty of water to drink.

TREATMENT: Treat symptomatically.

EMERGENCY: 0800 POISON (764 766)

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IV. Fire-fighting Measures

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide.

FIRE AND EXPLOSION HAZARDS: DANGER: Corrosive. Clear fire area of all non-emergency personnel. Cool fire exposed containers with water. Irritating fumes are released in fire situations. Do not allow material or run-off to enter waterways. Stay upwind, keep out of low areas.

FIRE-FIGHTING EQUIPMENT: Do not enter confined fire space without full bunker gear (helmet with face shield, bunker coats, gloves and rubber boots). Use approved positive pressure self contained breathing apparatus.

HAZCHEM: 3X.

V. Accidental Measures

PERSONAL PRECAUTIONS: Use cautious judgement when cleaning up spills. Shut off leaks, if possible without personal risk.

ENVIRONMENTAL PRECAUTIONS: Dike and contain. Contain run-off and dispose of properly. Remove contaminated soil to remove contaminated trace residues. Prevent from entering into drains, ditches or rivers.

CLEAN-UP METHODS (SMALL): Soak up with an absorbent material such as clay, sand, sawdust or Zorbball. Place in non-leaking container. Seal tightly for proper disposal.

CLEAN-UP METHODS (LARGE): Remove with vacuum trucks or pump to storage/salvage vessels. Soak up residue with an absorbent material such as clay, sand, sawdust or Zorbball. Place in non-leaking container. Seal tightly for proper disposal. Flush area with water to remove trace residue.

VI. Handling and Storage

HANDLING: Keep out of reach of children. Put on appropriate PPE (see Section VII). Causes skin irritation and sensitivity. Avoid contact with skin, eyes and clothing. Wash with soap and water before eating, drinking, smoking, applying cosmetics or using toilet facilities. Do not breathe vapour or mist. Clean up spilled material immediately, and wash clothes, equipment and work area after use.

STORAGE: Store in a cool, dry place with adequate ventilation. Keep containers closed when not in use.

VII. Exposure Controls/Personal Protection

WEL = workplace exposure limit; TWA = time weighted average; STEL = short term exposure limit

OCCUPATIONAL EXPOSURE LIMITS: None established.

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. Eye wash fountains and safety showers should be available for emergency use.

PERSONAL PROTECTION: Respiratory: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. **Skin:** 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. **Eye:** 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. **Hand:** Recommended gloves – polyvinyl alcohol (PVA), Butyl rubber, EVAL, Neoprene.

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VIII. Stability and Reactivity

CHEMICAL STABILITY: Stable under recommended storage conditions.

CONDITIONS TO AVOID: Avoid temperatures above 300^oC. Potentially violent decomposition can occur, causing gas generation and pressure increases in closed systems.

MATERIALS TO AVOID: Reactive or incompatible with the following materials: *oxidizing materials*: Slightly reactive or incompatible with the following materials: *acids and alkalis*.

HAZARDOUS DECOMPOSITION PRODUCTS: Decomposition products may include the following materials: carbon oxides, phenolics and water.

IX. Toxicological Information

POTENTIAL HEALTH EFFECTS

Inhalation: Vapours are unlikely due to physical properties.

Ingestion: Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

Skin: Prolonged or repeated contact may cause skin irritation.

Eye: May cause eye irritation. Corneal injury is unlikely.

ACUTE HEALTH EFFECTS

Test: LD50 Oral

Species: Rat

Result: <2,000mg/kg

Exposure: -

Test: LD50 Dermal

Species: Rabbit

Result: <5mg/L

Exposure: -

SYSTEM EFFECTS: Irritating to respiratory system. Corrosive to skin. Corrosive to eyes. May be harmful if swallowed.

CARCINOGENICITY: Has not been classified by IARC.

MUTAGENICITY: Has not been classified by IARC.

X. Ecological Information

ECOTOXICITY: Based on information for IPD.

DEGRADABILITY: No data is available on the product itself.

BIOACCUMULATION: No data is available on the product itself.

HSNO: 9.1B: (algal) Very ecotoxic in the aquatic environment. **9.1C:** (crustacean) Harmful in the aquatic environment. **9.3B:** Ecotoxic to terrestrial vertebrates.

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XI. Disposal Considerations

DISPOSAL: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal methods must be in compliance with all Federal, State/Provincial and local laws and regulations. For UNUSED AND UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: recycler, reclaimer, incinerator or other destruction device.

XII. Transport Information

ROAD, RAIL, SEA AND AIR TRANSPORT UN NUMBER: 2735

PROPER SHIPPING NAME: Polyamines, liquid, corrosive, n.o.s. (mixture contains isophoronediamine)

DG CLASS: 8

PACKING GROUP: III

HAZCHEM CODE: 3X

IMO/IMDG CLASS: 8

ICAO/IATA CLASS: 8

EMS CODE: F – A, S – B

MARINE POLLUTANT: Yes

XIII. Regulatory Information

ERMA APPROVAL CODE: HSR002658

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