SAFETY DATA SHEET
TAMREZ 220 PART A

SECTION 1: Identification: Product identifier and chemical identity

Product identifier

Product name TAMREZ 220 PART A

Product No. 100053569 -61

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

Application Epoxy Binder and Injection Resin

Details of the supplier of the safety data sheet

Supplier

Normet Asia-Pacific Pty Ltd
10 Ashwin Parade
Torrensville,
SA 5031
Australia
+61 (0)8 8152 7700
+61 (0)8 8152 0667
SDS@NORMET.COM

Emergency telephone number

Emergency telephone 1-800-557346 (24 HOURS)

SECTION 2: Hazard(s) identification

Classification of the substance or mixture

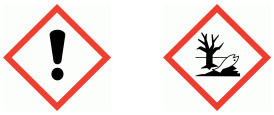
Physical hazards Not Classified

Health hazards Skin Irrit. 2 - H315 Eye Irrit. 2A - H319 Skin Sens. 1 - H317

Environmental hazards Aquatic Chronic 2 - H411

Label elements

Hazard pictograms



Signal word WARNING

Hazard statements

H315 Causes skin irritation.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H411 Toxic to aquatic life with long lasting effects.

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Precautionary statements

P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332+P313 If skin irritation occurs: Get medical advice/ attention.
P337+P313 If eye irritation persists: Get medical advice/ attention.
P501 Dispose of contents/ container in accordance with national regulations.

Contains

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin)), oxirane, mono[(C12-14-alkyloxy)methyl] derivs.

Other hazards

HSNO Classification

SECTION 3: Composition and information on ingredients

Mixtures

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin)) **60-100%**

CAS number: 25068-38-6

Classification
Skin Irrit. 2 - H315
Eye Irrit. 2A - H319
Skin Sens. 1 - H317
Aquatic Chronic 2 - H411

oxirane, mono[(C12-14-alkyloxy)methyl] derivs. **10-30%**

CAS number: 68609-97-2

Classification
Skin Irrit. 2 - H315
Skin Sens. 1 - H317

The full text for all hazard statements is displayed in Section 16.

SECTION 4: First aid measures

Description of first aid measures

General information

Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Get medical attention. Treat symptomatically.

Inhalation

IF INHALED: Get medical attention immediately. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Do not induce vomiting.

Ingestion

IF SWALLOWED: Get medical attention immediately. If throat irritation or coughing persists, proceed as follows. Rinse mouth thoroughly with water. Promptly get affected person to drink large volumes of water to dilute the swallowed chemical. Stop if the affected person feels sick as vomiting may be dangerous. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs.

Skin Contact

IF ON SKIN (or hair): Rinse immediately with plenty of water. Continue to rinse for at least 10 minutes. Get medical attention if irritation persists after washing. Remove contaminated clothing.

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Eye contact	IF IN EYES: Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes and get medical attention. Get medical attention if irritation persists after washing.
Protection of first aiders	First aid personnel should wear appropriate protective equipment during any rescue.

Most important symptoms and effects, both acute and delayed

General information	Treat symptomatically. See Section 11 for additional information on health hazards.
Inhalation	Irritating.
Ingestion	May cause stomach pain or vomiting. May cause irritation. Gastrointestinal symptoms, including upset stomach.
Skin contact	May cause skin irritation.
Eye contact	Causes skin and eye irritation.

Indication of any immediate medical attention and special treatment needed

Notes for the doctor	Treat symptomatically.
Specific treatments	Treat symptomatically.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media	Use fire-extinguishing media suitable for the surrounding fire. Extinguish with alcohol-resistant foam, carbon dioxide or dry powder.

Special hazards arising from the substance or mixture

Specific hazards	Irritating gases or vapours.
Hazardous combustion products	Harmful gases or vapours.

Advice for firefighters

Protective actions during firefighting	No action shall be taken without appropriate training or involving any personal risk. Stop leak if safe to do so. If leakage cannot be stopped, evacuate area. Move containers from fire area if it can be done without risk.
Special protective equipment for firefighters	Use air-supplied respirator, gloves and protective goggles.
Hazchem Code	•3Z

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions	No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Avoid contact with skin, eyes and clothing. Avoid inhalation of vapours. Follow precautions for safe handling described in this safety data sheet.
For non-emergency personnel	No action shall be taken involving any personal risk or without suitable training. Evaluate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Environmental precautions

Environmental precautions Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

Methods and material for containment and cleaning up

Methods for cleaning up If leakage cannot be stopped, evacuate area. Move containers from spillage area. Large Spillages: Absorb spillage with sand or other inert absorbent. Collect and place in suitable waste disposal containers and seal securely. Small Spillages: Absorb small quantities with paper towels and evaporate in a safe place. Residues and empty containers should be taken care of as hazardous waste according to local and national provisions. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

Reference to other sections

Reference to other sections For personal protection, see Section 8. For waste disposal, see Section 13. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards.

SECTION 7: Handling and storage, including how the chemical may be safely used

Precautions for safe handling

Usage precautions For professional users only. Do not handle until all safety precautions have been read and understood. Use only in well-ventilated areas. Protect from moisture. Keep container dry. Container must be kept tightly closed when not in use. Do not eat, drink or smoke when using this product.

Advice on general occupational hygiene Do not eat, drink or smoke when using this product. Provide eyewash station. Wash promptly with soap and water if skin becomes contaminated. Promptly remove any clothing that becomes contaminated.

Conditions for safe storage, including any incompatibilities

Storage precautions Store at temperatures between 4°C and 30°C. Store in tightly-closed, original container in a dry, cool and well-ventilated place. Do not store near heat sources or expose to high temperatures. Store away from the following materials: Acids. Alkalis.

Storage class Chemical storage.

Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.

SECTION 8: Exposure controls and personal protection

Exposure controls

Protective equipment

Appropriate engineering controls This product is not to be used under conditions of poor ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

Personal protection Use protective clothing, hand gloves and goggles.

Eye/face protection Use safety glasses with side shields that are consistent with EN 166, or local equivalent, are recommended.

Hand protection	To protect hands from chemicals, gloves should comply with Australia/New Zealand Standard AS/NZS 2161. It is recommended that gloves are made of the following material: Nitrile rubber. Butyl rubber.
Other skin and body protection	Wear appropriate clothing to prevent skin contamination.
Hygiene measures	Wash hands thoroughly after handling. Promptly remove any clothing that becomes contaminated. Do not eat, drink or smoke when using this product.
Respiratory protection	Combination filter, type A2/P3.
Environmental exposure controls	Keep container tightly sealed when not in use. Residues and empty containers should be taken care of as hazardous waste according to local and national provisions.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Clear liquid.
Colour	Colourless to pale yellow.
Odour	Characteristic.
Odour threshold	Not determined.
pH	Not determined.
Melting point	Not applicable.
Initial boiling point and range	Not determined.
Flash point	>150°C Closed cup.
Evaporation rate	Not determined.
Evaporation factor	Not determined.
Flammability (solid, gas)	Not applicable.
Flammability Limit - Lower(%)	Not applicable.
Other flammability	Not applicable.
Vapour pressure	Not determined.
Vapour density	Not determined.
Relative density	1.12 @ 20°C
Bulk density	Not applicable.
Solubility(ies)	Not determined.
Partition coefficient	Not determined.
Auto-ignition temperature	Not determined.
Decomposition Temperature	Not determined.
Viscosity	700-1100 mPa s @ 20°C
Explosive properties	Not applicable.
Explosive under the influence of a flame	Not considered to be explosive.
Oxidising properties	Not applicable.

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SECTION 10: Stability and reactivity

Reactivity The reactivity data for this product will be typical of those for the following class of materials: Epoxides.

Stability Stable at normal ambient temperatures and when used as recommended.

Possibility of hazardous reactions No potentially hazardous reactions known.

Conditions to avoid Avoid exposure to high temperatures or direct sunlight.

Materials to avoid Avoid contact with the following materials: Strong alkalis. Alcohols.

Hazardous decomposition products No known hazardous decomposition products.

SECTION 11: Toxicological information

Information on toxicological effects

Toxicological effects Information given is based on data on the components and the toxicology of similar products.

Acute toxicity - oral

Notes (oral LD_{50}) Based on available data the classification criteria are not met.

Acute toxicity - dermal

Notes (dermal LD_{50}) Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC_{50}) Based on available data the classification criteria are not met.

Skin corrosion/irritation

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/irritation

Serious eye damage/irritation Causes serious eye irritation.

Respiratory sensitisation

Respiratory sensitisation Based on available data the classification criteria are not met.

Skin sensitisation

Skin sensitisation May cause an allergic skin reaction.

Germ cell mutagenicity

Summary Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Based on available data the classification criteria are not met.

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Aspiration hazard

Aspiration hazard Not relevant.

Inhalation May cause respiratory tract irritation.

Skin Contact Irritating to skin. May cause sensitisation by skin contact.

Eye contact Irritating to eyes.

Toxicological information on ingredients.

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin))

Acute toxicity - oral

Notes (oral LD_{50}) LD_{50} >5000 mg/kg, Oral, Rat

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg) 20,000.0

Species Rabbit

ATE dermal (mg/kg) 20,000.0

Skin corrosion/irritation

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/irritation

Serious eye damage/irritation Causes serious eye irritation.

Skin sensitisation

Skin sensitisation May cause an allergic skin reaction.

Reproductive toxicity

Reproductive toxicity - fertility Fertility - NOAEL 750 mg/kg/day, Oral, Rat

Reproductive toxicity - development Developmental toxicity: - NOAEL: 180 mg/kg/day, Oral, Rat

oxirane, mono[(C12-14-alkyloxy)methyl] derivs.

Reproductive toxicity

Reproductive toxicity - fertility Fertility - NOAEL 100 mg/kg/day, Dermal, Rat P

Reproductive toxicity - development Developmental toxicity: - NOAEL: 200 mg/kg/day, Dermal, Rat Maternal toxicity: - NOAEL: 200 mg/kg/day, Dermal, Rat

SECTION 12: Ecological information

Ecotoxicity The product contains substances which are toxic to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.

Ecological information on ingredients.

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ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin))

Ecotoxicity Toxic to aquatic life with long lasting effects.

Acute aquatic toxicity

Acute toxicity - fish No specific test data are available.

Acute toxicity - aquatic invertebrates No specific test data are available.

Ecological information on ingredients.

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin))

Acute aquatic toxicity

Acute toxicity - fish	LC_{50}, 96 hours: 2.3 mg/l, Oncorhynchus mykiss (Rainbow trout)
Acute toxicity - aquatic invertebrates	LC_{50}, 48 hours: 1.8 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC_{50}, 72 hours: 11 mg/l, Scenedesmus subspicatus NOEC, 72 hours: 4.2 mg/l, Algae
Acute toxicity - microorganisms	IC_{50}, 3 hours: >100 mg/l, Microorganisms

oxirane, mono[(C12-14-alkyloxy)methyl] derivs.

Acute aquatic toxicity

Acute toxicity - fish	LC_{50}, 96 hours: 1800 mg/l, Lepomis macrochirus (Bluegill) NOEC, 96 hours: 100 mg/l, Oncorhynchus mykiss (Rainbow trout)
Acute toxicity - aquatic invertebrates	EC_{50}, 48 hours: 6.07 mg/l, Daphnia magna
Acute toxicity - aquatic plants	IC_{50}, 72 hours: 843.75 mg/l, Selenastrum capricornutum NOEC, 72 hours: 500 mg/l, Selenastrum capricornutum

Persistence and degradability

Persistence and degradability Not expected to be readily biodegradable.

Ecological information on ingredients.

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin))

Persistence and degradability	117hr @ 25°C

oxirane, mono[(C12-14-alkyloxy)methyl] derivs.

Persistence and degradability	87% degradation
Biodegradation	Water - Degradation 34.7%: 28 days

Bioaccumulative potential

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Partition coefficient Not determined.

Ecological information on ingredients.

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin))

Bioaccumulative Potential BCF: = 31, log Pow: = 3.242 (est) @ 25°C,

oxirane, mono[(C12-14-alkyloxy)methyl] derivs.

Bioaccumulative Potential BCF: : 160, log Pow: = 3.77,

Mobility in soil

Mobility No specific test data are available.

Ecological information on ingredients.

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin))

Mobility Koc=>426580

oxirane, mono[(C12-14-alkyloxy)methyl] derivs.

Mobility Koc=445@20°C

Other adverse effects

Other adverse effects None known.

SECTION 13: Disposal considerations

Waste treatment methods

General information Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. Waste is classified as hazardous waste.

Disposal methods Dispose of contents/container in accordance with national regulations. Waste is classified as hazardous waste. Empty containers or liners may retain some product residues and hence be potentially hazardous.

SECTION 14: Transport information

UN number

UN No. (ADG) 3082

UN No. (IMDG) 3082

UN No. (ICAO) 3082

UN proper shipping name

Proper shipping name (ADG) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin)))

Proper shipping name (IMDG) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin)))

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Proper shipping name (ICAO) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin)))

Transport hazard class(es)

ADG class 9

ADG classification code M6

ADG label 9

IMDG class 9

ICAO class/division 9

Transport labels

Packing group

ADG packing group III

IMDG packing group III

ICAO packing group III

Environmental hazards

Environmentally hazardous substance/marine pollutant

Special precautions for user

EmS F-A, S-F

Hazchem Code •3Z

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

SECTION 15: Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

Guidance Workplace Exposure Limits EH40.

Inventories

EU - EINECS/ELINCS

All the ingredients are listed or exempt.

SECTION 16: Any other relevant information

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Abbreviations and acronyms used in the safety data sheet	ADG: Australian dangerous goods code IATA: International air transport association. IMDG: International maritime dangerous goods. LC_{50}: Lethal concentration to 50 % of a test population. LD_{50}: Lethal dose to 50% of a test population (median lethal dose). NOEC: No observed effect concentration. vPvB: Very persistent and very bioaccumulative. PBT: Persistent, bioaccumulative and toxic substance. UN: United Nations. CAS: Chemical abstracts service. GHS: Globally harmonized system.
General information	Only trained personnel should use this material.
Key literature references and sources for data	Source: European Chemicals Agency, http://echa.europa.eu/
Revision date	6/10/2020
Revision	2
SDS No.	6870
Hazard statements in full	H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H411 Toxic to aquatic life with long lasting effects.