Safety Data Sheet

Hazardous, NON-Dangerous Goods

1. MATERIAL AND SUPPLY COMPANY IDENTIFICATION

Product name: GALAXIE PU Cut

Synonyms
Galaxie PU CUT 20KG

Product Code
GALPUCUT20

Recommended use: Hydrophobic Rigid, polyurethane grout.

Supplier: Tam Australia Pty Ltd
ABN: 35 637 639 251
Street Address: 314 Glen Osmond Road,
Myrtle Bank, SA 5064
Australia
Website tamaustralia.com.au

Emergency Telephone number: Australia – 131 126, New Zealand 0800 764 766

2. HAZARDS IDENTIFICATION

This material is hazardous according to the criteria of Safe Work Australia GHS 7.

Signal Word
Danger

Hazard Classifications
Acute Toxicity - Inhalation - Category 4
Skin Corrosion/Irritation - Category 2 Eye
Damage/Irritation - Category 2A
Sensitisation - Respiratory - Category 1A
Sensitisation - Skin - Category 1A
Carcinogenicity - Category 2
Specific Target Organ Toxicity (Single Exposure) - Category 3 Respiratory Tract Irritation
Specific Target Organ Toxicity (Repeated Exposure) - Category 2

Hazard Statements

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer .
H373	May cause damage to organs through prolonged or repeated exposure.

Prevention Precautionary Statements

P102	Keep out of reach of children.
P103	Read carefully and follow all instructions.

P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust, fume, gas, mist, vapours or spray.
P264	Wash hands, face and all exposed skin thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing including eye/face protection.
P284	In case of inadequate ventilation wear respiratory protection.

Response Precautionary Statements

P101	If medical advice is needed, have product container or label at hand.
P302+P352	IF ON SKIN: Wash with plenty of water and soap.
P304+P341	IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P314	Get medical advice/attention if you feel unwell.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTRE or doctor/physician.
P362+P364	Take off contaminated clothing and wash it before reuse

Storage Precautionary Statements

P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

Disposal Precautionary Statement

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

Poison Schedule: Not Applicable

DANGEROUS GOOD CLASSIFICATION

Not classified as Dangerous Goods by the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and the "New Zealand NZS5433: Transport of Dangerous Goods on Land".

3. COMPOSITION INFORMATION

CHEMICAL ENTITY	CAS NO	PROPORTION
4, 4' - diphenylmethane diisocyanate (MDI)	101-68-8	50 - 80 % (w/w)
Ingredients determined to be non-hazardous or below reporting limits		Balance
		100%

4. FIRST AID MEASURES

If poisoning occurs, contact a doctor or Poisons Information Centre (Phone Australia 131 126, New Zealand 0800 764 766).

Inhalation: Effects may be delayed. Remove victim from exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. If breathing laboured and patient cyanotic (blue), ensure airways are clear and have a qualified person give oxygen through a facemask. If breathing has stopped apply artificial respiration at once. In the event of cardiac arrest, apply external cardiac massage. Seek immediate medical advice.

Skin Contact: Effects may be delayed. If skin or hair contact occurs, immediately remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre or a Doctor; or for 15 minutes and transport to Doctor or Hospital.

Eye contact: If in eyes, hold eyelids apart and flush the eyes continuously with running water. Continue flushing until advised to stop by the Poisons Information Centre or a Doctor; or for at least 15 minutes and transport to Doctor or Hospital.

Ingestion: Rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water to drink. Never give anything by the mouth to an unconscious patient. If vomiting occurs give further water. Seek medical advice.

PPE for First Aiders: Wear safety shoes, overalls, gloves, safety glasses, respirator. Use with adequate ventilation. If inhalation risk exists wear organic vapour/particulate respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716. Available information suggests that gloves made from should be suitable for intermittent contact. However, due to variations in glove construction and local conditions, the user should make a final assessment. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

Notes to physician: Treat symptomatically. Effects may be delayed.

5. FIRE FIGHTING MEASURES

Hazchem Code: Not applicable.

Suitable extinguishing media: If material is involved in a fire use water fog (or if unavailable fine water spray), alcohol resistant foam, standard foam, dry agent (carbon dioxide, dry chemical powder).

Specific hazards: Combustible material.

Fire fighting further advice: On burning or decomposing may emit toxic fumes. Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to vapour or products of combustion or decomposition.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILLS
Wear protective equipment to prevent skin and eye contamination. Avoid inhalation of vapours or dust. Wipe up with absorbent (clean rag or paper towels). Collect and seal in properly labelled containers or drums for disposal.

LARGE SPILLS
Clear area of all unprotected personnel. Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contamination and the inhalation of vapours. Work up wind or increase ventilation. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Collect and seal in properly labelled containers or drums for disposal. If contamination of crops, sewers or waterways has occurred advise local emergency services.

Dangerous Goods - Initial Emergency Response Guide No: Not applicable

7. HANDLING AND STORAGE

Handling: Avoid eye contact and skin contact. Avoid inhalation of vapour, mist or aerosols.

Storage: Store in a cool, dry, well-ventilated place and out of direct sunlight. Store away from foodstuffs. Store away from incompatible materials described in Section 10. Store away from sources of heat and/or ignition. Store locked up. Keep container standing upright. Keep containers closed when not in use - check regularly for leaks.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

National occupational exposure limits:

	TWA		STEL		NOTICES
	ppm	mg/m3	ppm	mg/m3	
Methylene bisphenyl isocyanate (MDI)					

As published by Safe Work Australia.

TWA - The time-weighted average airborne concentration over an eight-hour working day, for a five-day working week over an entire working life.

STEL (Short Term Exposure Limit) - the average airborne concentration over a 15 minute period which should not be exceeded at any time during a normal eight-hour workday.

These Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

If the directions for use on the product label are followed, exposure of individuals using the product should not exceed the above standard. The standard was created for workers who are routinely, potentially exposed during product manufacture.

Biological Limit Values: As per the "National Model Regulations for the Control of Workplace Hazardous Substances (Safe Work Australia)" the ingredients in this material do not have a Biological Limit Allocated.

Engineering Measures: Ensure ventilation is adequate to maintain air concentrations below Exposure Standards. Use only in well ventilated areas. Use with local exhaust ventilation or while wearing appropriate respirator. Vapour heavier than air - prevent concentration in hollows or sumps. Do NOT enter confined spaces where vapour may have collected.

Personal Protection Equipment: SAFETY SHOES, OVERALLS, GLOVES, SAFETY GLASSES, RESPIRATOR.

Wear safety shoes, overalls, gloves, safety glasses, respirator. Use with adequate ventilation. If inhalation risk exists wear organic vapour/particulate respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716. Available information suggests that gloves made from should be suitable for intermittent contact. However, due to variations in glove construction and local conditions, the user should make a final assessment. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

Hygiene measures: Keep away from food, drink and animal feeding stuffs. When using do not eat, drink or smoke. Wash hands prior to eating, drinking or smoking. Avoid contact with clothing. Avoid eye contact and skin contact. Avoid inhalation of vapour, mist or aerosols. Ensure that eyewash stations and safety showers are close to the workstation location.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	Viscous Liquid
Colour:	Pale-yellow
Odour:	Mild, characteristic.

Solubility:	Insoluble in water. Soluble in organic solvents.
Specific Gravity:	1.1
Relative Vapour Density (air=1):	>1
Vapour Pressure:	N Av
Flash Point (°C):	>93
Flammability Limits (%):	N App
Autoignition Temperature (°C):	N Av
Melting Point/Range (°C):	N Av
Boiling Point/Range (°C):	N Av
pH:	N App
Viscosity:	>12.5 mm²/s @ 40 °C
Total VOC (g/Litre):	N Av

(Typical values only - consult specification sheet)
N Av = Not available, N App = Not applicable

10. STABILITY AND REACTIVITY

Chemical stability: This material is thermally stable when stored and used as directed.

Conditions to avoid: Elevated temperatures and sources of ignition.

Incompatible materials: Oxidising agents.

Hazardous decomposition products: Oxides of carbon and nitrogen, smoke and other toxic fumes.

Hazardous reactions: No known hazardous reactions.

11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

Acute Effects

Inhalation: Harmful if inhaled. Material is an irritant to mucous membranes and respiratory tract. A respiratory sensitiser. Can cause possible allergic reactions.

Skin contact: Contact with skin will result in irritation. A skin sensitiser. Repeated or prolonged skin contact may lead to allergic contact dermatitis.

Ingestion: Swallowing can result in nausea, vomiting and irritation of the gastrointestinal tract.

Eye contact: An eye irritant.

Acute toxicity

Inhalation: This material has been classified as a Category 4 Hazard. Acute toxicity estimate (based on ingredients): $10.0 < LC_{50} \leq 20.0$ mg/L for vapours or $1.0 < LC_{50} \leq 5.0$ mg/L for dust and mist.

Skin contact: This material has been classified as not hazardous for acute dermal exposure. Acute toxicity estimate (based on ingredients): $LD_{50} > 2{,}000$ mg/Kg bw

Ingestion: This material has been classified as not hazardous for acute ingestion exposure. Acute toxicity estimate (based on ingredients): LD_{50} > 2,000 mg/Kg bw

Corrosion/Irritancy: Eye: this material has been classified as a Category 2A Hazard (reversible effects to eyes). Skin: this material has been classified as a Category 2 Hazard (reversible effects to skin).

Sensitisation: Inhalation: this material has been classified as a Category 1A Hazard (respiratory sensitiser). Skin: this material has been classified as a Category 1A Hazard (skin sensitiser).

Aspiration hazard: This material has been classified as not an aspiration hazard.

Specific target organ toxicity (single exposure): This material has been classified as a Category 3 Hazard. Exposure via inhalation may result in respiratory irritation.

Chronic Toxicity

Mutagenicity: This material has been classified as not a mutagen.

Carcinogenicity: This material has been classified as a Category 2 Hazard.

Reproductive toxicity (including via lactation): This material has been classified as not a reproductive toxicant.

Specific target organ toxicity (repeat exposure): This material has been classified as a Category 2 Hazard.

12. ECOLOGICAL INFORMATION

Avoid contaminating waterways.

Acute aquatic hazard: This material has been classified as not hazardous for acute aquatic exposure. Acute toxicity estimate (based on ingredients): > 100 mg/L

Long-term aquatic hazard: This material has been classified as not hazardous for chronic aquatic exposure. Non-rapidly or rapidly degradable substance for which there are adequate chronic toxicity data available OR in the absence of chronic toxicity data, Acute toxicity estimate (based on ingredients): >100 mg/L, where the substance is not rapidly degradable and/or BCF < 500 and/or log K_{ow} < 4.

Ecotoxicity: No information available.

Persistence and degradability: No information available.

Bioaccumulative potential: No information available.

Mobility: No information available.

13. DISPOSAL CONSIDERATIONS

Persons conducting disposal, recycling or reclamation activities should ensure that appropriate personal protection equipment is used, see "Section 8. Exposure Controls and Personal Protection" of this SDS.

If possible material and its container should be recycled. If material or container cannot be recycled, dispose in accordance with local, regional, national and international Regulations.

14. TRANSPORT INFORMATION

ROAD AND RAIL TRANSPORT
Not classified as Dangerous Goods by the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and the "New Zealand NZS5433: Transport of Dangerous Goods on Land".

MARINE TRANSPORT
Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

AIR TRANSPORT
Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

15. REGULATORY INFORMATION

This material is not subject to the following international agreements:
Montreal Protocol (Ozone depleting substances)
The Stockholm Convention (Persistent Organic Pollutants)
The Rotterdam Convention (Prior Informed Consent)
Basel Convention (Hazardous Waste)
International Convention for the Prevention of Pollution from Ships (MARPOL)

This material/constituent(s) is covered by the following requirements:

The Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) established under the Therapeutic Goods Act (Commonwealth): Not Applicable.

AICIS Status: All components of this product are listed on or exempt from the Australian Inventory of Industrial Chemicals (AIIC).

NZ EPA Status: All components of this product are listed on or exempt from the New Zealand Inventory of Chemical (NZIoC).

HSNO Group Standard: HSR002679 - Surface Coatings and Colourants (Carcinogenic) Group Standard 2020

16. OTHER INFORMATION

Reason for issue: Revised

Safety Data Sheets are updated frequently. Please ensure that you have a current copy.

This SDS summarises at the date of issue our best knowledge of the health and safety hazard information of the product, and in particular how to safely handle and use the product in the workplace. Since the company cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, review this SDS in the context of how the user intends to handle and use the product in the workplace.

If clarification or further information is needed to ensure that an appropriate assessment can be made, the user should contact this company.

Our responsibility for product as sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available upon request.

Safety Data Sheet

1. MATERIAL AND SUPPLY COMPANY IDENTIFICATION

Product name: GALAXIE PU CutCat

Synonyms
Galaxie CutCat

Product Code
GALCUTCAT

Recommended use: Accelerator for use with PU Cut

Supplier: Tam Australia Pty Ltd
ABN: 35 637 639 251
Street Address: 314 Glen Osmond Road,
Myrtle Bank, SA 5064
Australia
Website tamaustralia.com.au

Emergency Telephone number: **Australia – 131 126, New Zealand 0800 764 766**

2. HAZARDS IDENTIFICATION

GHS Classification
Serious eye damage/eye irritation Category 2B

GHS label elements
Hazard pictograms None
Signal Word Warning

Hazard Statements H320 Causes eye irritation

Precautionary Statements
Prevention: P264 Wash skin thoroughly after handling.
Response: P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/ attention.

Storage: Not available
Disposal: Not available

Other hazards which do not result in classification
None known.

3. COMPOSITION INFORMATION

CHEMICAL ENTITY	CAS NO	PROPORTION
2,2'-dimorpholinyldiethyl ether	6425-39-4	>10%- <30%
Ingredients determined to be non-hazardous or below reporting limits		rest
		100%

4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Show this material safety data sheet to the doctor in attendance.
Treat symptomatically. Get medical attention if symptoms occur.
If inhaled : If inhaled, remove to fresh air. Get medical attention if symptoms occur.
In case of skin contact : Wash with water and soap as a precaution.
In case of eye contact : Immediately flush eye(s) with plenty of water. Remove contact lenses.
Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed Keep respiratory tract clear. Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

Most important symptoms and effects, both acute and delayed: Causes eye irritation.

Protection of first-aiders First Aid responders should pay attention to self-protection and use the recommended protective clothing If potential for exposure exists refer to Section 8 for specific personal protective equipment.
No action shall be taken involving any personal risk or without suitable training.
Notes to physician : Treat symptomatically.

5. FIRE FIGHTING MEASURES

Hazchem Code: Not applicable.

Suitable extinguishing media: If material is involved in a fire use water fog (or if unavailable fine water spray), alcohol resistant foam, standard foam, dry agent (carbon dioxide, dry chemical powder).
Unsuitable extinguishing media: Exercise caution when using a high-volume water jet as it may scatter and spread fire.
Specific hazards during firefighting: No information available.
Hazardous combustion products: Carbon oxides Nitrogen oxides (NOx)
Specific extinguishing methods: No action shall be taken involving any personal risk or without suitable training. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Special protective equipment for fire-fighters: Wear self-contained breathing apparatus for firefighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Refer to protective measures listed in sections 7 and 8.

Environmental precautions: Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Handling: Avoid eye contact and repeated or prolonged skin contact. Avoid inhalation of vapour, mist or aerosols.

Storage: Store in a cool, dry, well-ventilated place and out of direct sunlight. Store away from foodstuffs. Store away from incompatible materials described in Section 10. Store away from sources of heat and/or ignition. Keep container standing upright. Keep containers closed when not in use - check regularly for leaks.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

National occupational exposure limits: No value assigned for this specific material by Safe Work Australia.

Biological Limit Values: As per the "National Model Regulations for the Control of Workplace Hazardous Substances (Safe Work Australia)" the ingredients in this material do not have a Biological Limit Allocated.

Engineering Measures: Natural ventilation should be adequate under normal use conditions.

Personal Protection Equipment: SAFETY SHOES, OVERALLS, GLOVES, SAFETY GLASSES.

Wear safety shoes, overalls, gloves, safety glasses. Available information suggests that gloves made from nitrile rubber should be suitable for intermittent contact. However, due to variations in glove construction and local conditions, the user should make a final assessment. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

Hygiene measures: Keep away from food, drink and animal feeding stuffs. When using do not eat, drink or smoke. Wash hands prior to eating, drinking or smoking. Avoid contact with clothing. Avoid eye contact and repeated or prolonged skin contact. Avoid inhalation of vapour, mist or aerosols. Ensure that eyewash stations and safety showers are close to the workstation location.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	Liquid
Colour:	Clear
Odour:	Mild, characteristic

Solubility:	Dispersible in water
Specific Gravity:	0.97
Relative Vapour Density (air=1):	>1
Vapour Pressure (20 °C):	N App
Flash Point (°C):	N App
Flammability Limits (%):	N App
Autoignition Temperature (°C):	N Av
Melting Point/Range (°C):	N Av
Boiling Point/Range (°C):	Approx. 100
pH:	N App
Viscosity:	N Av
Total VOC (g/Litre):	N Av

(Typical values only - consult specification sheet)
N Av = Not available, N App = Not applicable

10. STABILITY AND REACTIVITY

Chemical stability: This material is thermally stable when stored and used as directed.

Conditions to avoid: None Known.

Incompatible materials: None Known.

Hazardous decomposition products: None Known.

Hazardous reactions: No known hazardous reactions.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified due to lack of data.
Components:
2,2'-dimorpholinyldiethyl ether:
Acute oral toxicity : LD50 (Rat, male and female): 2,025 mg/kg
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rabbit, male and female): 3,038 mg/kg
Method: OECD Test Guideline 402

Skin corrosion/irritation
Not classified due to lack of data.
Components:
2,2'-dimorpholinyldiethyl ether**:**
Species : Rabbit
Exposure time : 4 h
Assessment : No skin irritation
Method : OECD Test Guideline 404
Result : No skin irritation

Serious eye damage/eye irritation
Causes eye irritation.
Components:
2,2'-dimorpholinyldiethyl ether:
Species : Rabbit
Result : Mild eye irritation
Method : OECD Test Guideline 405

Respiratory or skin sensitisation

Skin sensitisation
Not classified due to lack of data.

Respiratory sensitisation
Not classified due to lack of data.

Components:
2,2'-dimorpholinyldiethyl ether:
Test Type : Buehler Test
Exposure routes : Skin
Species : Guinea pig
Assessment : Did not cause sensitisation on laboratory animals.
Method : OECD Test Guideline 406
Result : Did not cause sensitisation on laboratory animals.

Chronic toxicity
Germ cell mutagenicity
Not classified due to lack of data.
Components:
2,2'-dimorpholinyldiethyl ether:
Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476
Result: negative

Test Type: reverse mutation assay
Test system: Salmonella tryphimurium and E. coli Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Genotoxicity in vivo : Test Type: In vivo micronucleus test
Species: Mouse (male and female) Application Route: Oral
Dose: 500/1000/2000 mg/kg bw/day Method: OECD Test Guideline 474 Result: negative

Carcinogenicity
Not classified due to lack of data.
Reproductive toxicity
Not classified due to lack of data.
Components:
2,2'-dimorpholinyldiethyl ether:
Effects on fertility : Test Type: Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test Species: Rat, male and female
Application Route: Oral
Dose: 0, 50, 150, 300 milligram per kilogram
General Toxicity Parent: NOAEL: 300 mg/kg body weight General Toxicity F1: NOAEL: 300 mg/kg body weight
Method: OECD Test Guideline 422
Result: negative
Effects on fetal development : Test Type: Pre-natal
Species: Rat, female Application Route: Oral
Dose: 75, 250, 750 milligram per kilogram Duration of Single Treatment: 14 d
General Toxicity Maternal: NOAEL: 75 mg/kg body weight Developmental Toxicity: NOAEL: 750 mg/kg body weight Method: OECD Test Guideline 414
Result: No effects on fertility and early embryonic development were detected.
Remarks: Information given is based on data obtained from similar substances.
STOT-single exposure
Not classified due to lack of data.
STOT-repeated exposure
Not classified due to lack of data.
Repeated dose toxicity
Components:
2,2'-dimorpholinyldiethyl ether:
Species : Rat, male and female
NOEC : 181 mg/m3
Application Route : inhalation (vapor)
Exposure time : 5 days/week 104 Weeks
Number of exposures : 6 h
Dose : 0, 10, 50, 150 ppm
Method : OECD Test Guideline 452
Remarks : Information given is based on data obtained from similar substances.

Species : Rat, male and female
NOAEL : 300 mg/kg
Application Route : oral (gavage)
Dose : 0, 50, 150, 300 mg/kg
Method : OECD Test Guideline 422

Aspiration toxicity
Not classified due to lack of data.
Experience with human exposure
No data available
Toxicology, Metabolism, Distribution
No data available
Neurological effects
No data available

12. ECOLOGICAL INFORMATION

Ecotoxicity
Components:
2,2'-dimorpholinyldiethyl ether:

Toxicity to fish: LC50 (Brachydanio rerio (zebrafish)): > 2,150 mg/l Exposure time: 96 h
Test Type: static test Analytical monitoring: no Test substance: Fresh water
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h Test Type: static test Analytical monitoring: yes Test substance: Fresh water Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants: NOEC (Selenastrum capricornutum (green algae)): 100 mg/l Exposure time: 72 h Test Type: static test Analytical monitoring: yes Test substance: Fresh water Method: OECD Test Guideline 201
ErC50 (Selenastrum capricornutum (green algae)): > 100 mg/l Exposure time: 72 h Test Type: static test Analytical monitoring: yes Test substance: Fresh water Method: OECD Test Guideline 201

Toxicity to microorganisms: EC50 (activated sludge): > 1,000 mg/l Exposure time: 3 h Test Type: static test Test substance: Fresh water Method: OECD Test Guideline 209

Persistence and degradability
Components:
2,2'-dimorpholinyldiethyl ether:
Biodegradability: aerobic Inoculum: Mixture Concentration: 100 mg/l Result: Not biodegradable Biodegradation: 4 % Exposure time: 28 d Method: OECD Test Guideline 301C

Stability in water: Degradation half life (DT50): 1 yr (55 °C) pH: 7 Remarks: Fresh water

Bioaccumulative potential
Components:
2,2'-dimorpholinyldiethyl ether:
Bioaccumulation: Species: Cyprinus carpio (Carp) Bioconcentration factor (BCF): 3 Exposure time: 56 d Temperature: 25 °C Test substance: Fresh water Method: OECD Test Guideline 305C

Partition coefficient: n-octanol/water - :log Pow: 0.5 (25 °C) pH: 9 Method: OECD Test Guideline 117 GLP: no

Mobility in soil
Components:
2,2'-dimorpholinyldiethyl ether:
Distribution among environmental compartments: log Koc: 3.27 Method: Calculation method Remarks: Slightly mobile in soils

Other adverse effects
Components:
2,2'-dimorpholinyldiethyl ether:

Results of PBT and vPvB assessment: Substance is not persistent, bioaccumulative, and toxic (PBT).

13. DISPOSAL CONSIDERATIONS

Persons conducting disposal, recycling or reclamation activities should ensure that appropriate personal protection equipment is used, see "Section 8. Exposure Controls and Personal Protection" of this SDS.

If possible material and its container should be recycled. If material or container cannot be recycled, dispose in accordance with local, regional, national and international Regulations.

14. TRANSPORT INFORMATION

ROAD AND RAIL TRANSPORT
Not classified as Dangerous Goods by the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and the "New Zealand NZS5433: Transport of Dangerous Goods on Land".

MARINE TRANSPORT
Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

AIR TRANSPORT
Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

15. REGULATORY INFORMATION

This material is not subject to the following international agreements:
Montreal Protocol (Ozone depleting substances)
The Stockholm Convention (Persistent Organic
Pollutants) The Rotterdam Convention (Prior Informed
Consent) Basel Convention (Hazardous Waste)
International Convention for the Prevention of Pollution from Ships (MARPOL)

This material/constituent(s) is covered by the following requirements:

- All components of this product are listed on or exempt from the Australian Inventory of Industrial Chemicals (AIIC).
- All components of this product are listed on or exempt from the New Zealand Inventory of Chemical (NZIoC).

16. OTHER INFORMATION

Reason for issue: Revised

Safety Data Sheets are updated frequently. Please ensure that you have a current copy. This SDS summarises at the date of issue our best knowledge of the health and safety hazard information of the product, and in particular how to safely handle and use the product in the workplace. Since the company cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, review this SDS in the context of how the user intends to handle and use the product in the workplace.

If clarification or further information is needed to ensure that an appropriate assessment can be made, the user should contact this company.

Our responsibility for product as sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available upon request.