Twin Plaza Metals

SAFETY DATA SHEET

BIO CLEAN

Infosafe No.: LQ0FS
ISSUED Date : 18/09/2017
ISSUED by: TWIN PLAZA METALS PTY LTD

1. IDENTIFICATION

GHS Product Identifier
BIO CLEAN

Company Name
TWIN PLAZA METALS PTY LTD

Address
Level 1, 155 Castlereagh Street Sydney
New South Wales 2000 Australia

Telephone/Fax Number
Tel: 02 9264 1667 (Mon-Fri; 9.00am - 4.45 pm)
Fax: 02 9264 2653

Emergency phone number
Poison Information Centre 13 11 26

E-mail Address
sales@twinplaza.com

Recommended use of the chemical and restrictions on use
Precision cleaning for ultrasonic processes.

2. HAZARD IDENTIFICATION

GHS classification of the substance/mixture
Classified as Hazardous according to the Globally Harmonised System of Classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia
Classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition)
Acute Toxicity - Dermal: Category 4
Acute Toxicity - Inhalation: Category 2
Acute Toxicity - Oral: Category 4
Eye Damage/Irritation: Category 1
Hazardous to the Aquatic Environment - Acute Hazard: Category 3
Sensitization - Skin: Category 1
Skin Corrosion/Irritation: Category 1B
STOT Single Exposure: Category 3 (respiratory tract irritation)

Signal Word (s)
DANGER

Hazard Statement (s)
H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H330 Fatal if inhaled.
H335 May cause respiratory irritation.
H402 Harmful to aquatic life.

Pictogram (s)
Skull and crossbones,Corrosion

Precautionary statement – Prevention
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P264 Wash contaminated skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P284 Wear respiratory protection.

Precautionary statement – Response
P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 IF INHALED: 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.
P310 Immediately call a POISON CENTER or doctor/physician.
P330 Rinse mouth.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P363 Wash contaminated clothing before reuse.

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

Precautionary statement – Disposal
P501 Dispose of contents/container to an approved waste disposal plant.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Name	CAS	Proportion
Diethylenetriamine	111-40-0	>=10-<25 %
Tetrapotassium pyrophosphate	7320-34-5	>=2.5-<10 %
Morpholine	110-91-8	>=2.5-<10 %
Propylene glycol	57-55-6	>=2.5-<10 %
Amides, C12-18, N,N-bis(hydroxyethyl)	68155-06-6	>=2.5-<10 %
Monoethanolamine	141-43-5	>=0-<2.5 %

4. FIRST-AID MEASURES

Inhalation
Avoid becoming a casualty - to protect rescuer, use air-viva, oxy-viva or one-way mask. Remove affected person from contaminated area - Apply artificial respiration if not breathing. Do not give direct mouth to mouth resuscitation. Resuscitate in a well ventilated area. Seek IMMEDIATE medical attention.

Ingestion
Do not induce vomiting. Wash out mouth thoroughly with water. Seek immediate medical attention.

Skin
Remove all contaminated clothing immediately. Wash gently and thoroughly with water and non-abrasive soap for 15 minutes. Ensure contaminated clothing is washed before re-use or discard. Seek immediate medical attention.

Eye contact
If in eyes, hold eyelids apart and flush the eyes continuously with running water. Remove contact lenses. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. Seek immediate medical attention.

First Aid Facilities
Eyewash, safety shower and normal washroom facilities.

Advice to Doctor
Treat symptomatically.

Other Information
For advice in an emergency, contact a Poisons Information Centre (Phone Australia 131 126) or a doctor at once.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use sprayed water or water mist.

Unsuitable Extinguishing Media
Water jet.

Hazards from Combustion Products
Under fire conditions this product may emit toxic and/or irritating fumes, smoke and gases including carbon monoxide, carbon dioxide and oxides of nitrogen.

Specific Hazards Arising From The Chemical
This product will burn if exposed to fire.

Hazchem Code
2X

Decomposition Temperature
Not available

Precautions in connection with Fire
Fire fighters should wear Self-Contained Breathing Apparatus (SCBA) operated in positive pressure mode and full protective clothing to prevent exposure to vapours or fumes. Water spray may be used to cool down heat-exposed containers. Fight fire from safe location. This product should be prevented from entering drains and watercourses.

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures
Remove all sources of ignition. Evacuate all unprotected personnel. Do not allow contact with skin and eyes. Do not breathe mist/ vapour. It is essential to wear self-contained breathing apparatus (S.C.B.A) and full personal protective equipment and clothing to prevent exposure. Avoid exposure to spillage by collecting the material using explosion proof vacuum and transfer into suitable labelled containers for subsequent recycling or disposal. Dispose of waste according to applicable local and national regulations. If contamination of sewers or waterways occurs inform the local water and waste management authorities in accordance with local regulations.

7. HANDLING AND STORAGE

Precautions for Safe Handling
Toxic and corrosive and combustible liquid. Attacks skin and eyes. Causes burns. Avoid exposure. Exposure without protection must be prevented. Wear appropriate personal protective equipment and clothing to prevent exposure. Use in designated areas with local exhaust ventilation. DO NOT store or use in confined spaces. Build up of mists or vapours in the atmosphere must be prevented. Do not use near ignition sources. Do not pressurise, cut, heat or weld containers as they may contain hazardous residues. Maintain high standards of personal hygiene i.e. Washing hands prior to eating, drinking, smoking or using toilet facilities.

Conditions for safe storage, including any incompatibilities
This material is Toxic, corrosive and combustible and must be stored, handled and maintained according to the appropriate

regulations. Limit quantity in storage. Restrict access to storage area. Post appropriate warning signs. Consider leak detection and alarm systems, as required. Provide a catch-tank in a bunded area. Structural materials and lighting and ventilation systems in storage area should be corrosion resistant. Store in a cool, dry, well-ventilated area away from sources of ignition, oxidizing agents, strong mineral acids, bases metal and/or water. Keep containers closed when not in use, securely sealed and protected against physical damage. Inspect regularly for deficiencies such as damage or leaks. Have appropriate fire extinguishers available in and near the storage area. Take precautions against static electricity discharges. Use proper grounding procedures.
For information on the design of the storeroom, reference should be made to Australian Standard AS 3780 The storage and handling of corrosive substances, Australian Standard AS/NZS 4452 The storage and handling of toxic substances and Australian Standard AS1940 - The storage and handling of flammable and combustible liquids.

Storage Temperatures
Stock between 5°C and 40°C in a dry, well ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limit values
No exposure standards have been established for this material. However, the available exposure limits for ingredients are listed below:

Diethylenetriamine
TWA: 1 ppm
TWA: 4.2 mg/m³
Notices: Sk

Propylene glycol
TWA: 150 ppm
TWA: 474 mg/m³

Morpholine
TWA: 20 ppm
TWA: 71 mg/m³
Notices: Sk

Monoethanolamine
TWA: 3 ppm
TWA: 7.5 mg/m³
STEL: 6 ppm
STEL: 15 mg/m³

TWA (Time Weighted Average): The average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day week.
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.
'Sk' Notice: Absorption through the skin may be a significant source of exposure. The exposure standard is invalidated if such contact should occur.

Biological Limit Values
No biological limits allocated.

Appropriate Engineering Controls
This substance is toxic and should be used with a local exhaust ventilation system, drawing vapours away from workers' breathing zone. Provide sufficient ventilation to keep airborne levels below the exposure limits or as low as possible. Where vapours or mists are generated, particularly in enclosed areas, and natural ventilation is inadequate, a flameproof exhaust ventilation system is required. Alternatively, a process enclosure system such as a fume cupboard should be employed.

Respiratory Protection
If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable vapor/mist filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements.
Reference should be made to Australian Standards AS/NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances.

Eye Protection

Safety glasses with full face shield should be used. Eye protection devices should conform to relevant regulations.
Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337 - Eye Protectors for Industrial Applications.

Hand Protection
Wear gloves of impervious material such as natural latex, PVC (polyvinyl chloride), butyl rubber (Isobutylene-isoprene copolymer), nitrile rubber (butadiene-acrylonitrile copolymer rubber (NBR)). Final choice of appropriate gloves will vary according to individual circumstances i.e. methods of handling or according to risk assessments undertaken. Reference should be made to AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance.

Body Protection
Suitable protective work wear, e.g. cotton overalls buttoned at neck and wrist is recommended. Chemical resistant apron is recommended where large quantities are handled.

9. PHYSICAL AND CHEMICAL PROPERTIES

Properties	Description	Properties	Description
Form	Liquid	**Appearance**	Brown viscous liquid
Colour	Brown	**Odour**	Characteristic
Decomposition Temperature	Not available	**Freezing Point**	Not available
Boiling Point	Not available	**Solubility in Water**	Soluble
Specific Gravity	Not available	**pH**	11.50 - Strongly basic pH (aqueous solution): 10.80
Vapour Pressure	Not relevant	**Vapour Density (Air=1)**	Not available
Evaporation Rate	Not available	**Odour Threshold**	Not available
Volatile Component	0.00 g/l - <3%	**Density**	1.046
Flash Point	Not relevant	**Flammability**	Combustible
Auto-Ignition Temperature	Not available	**Flammable Limits - Lower**	Not available
Flammable Limits - Upper	Not available		

Other Information
Miscibility : 100%

10. STABILITY AND REACTIVITY

Chemical Stability
Stable under normal conditions of storage and handling.

Reactivity and Stability
Reacts with incompatible materials.

Conditions to Avoid
Avoid frost

Incompatible materials
Not available

Hazardous Decomposition Products
Under fire conditions this product may emit toxic and/or irritating fumes, smoke and gases including carbon monoxide, carbon dioxide and oxides of nitrogen.

Possibility of hazardous reactions
Not available

Hazardous Polymerization
Not available

11. TOXICOLOGICAL INFORMATION

Toxicology Information
No toxicity data available for this material. The available acute toxicity data for the ingredient/s is/are given below.

Acute Toxicity - Oral
Monoethanolamine
LD50(rat): 1089 mg/kg

Tetrapotassium pyrophosphate
LD50(rat): 2440 mg/kg

Morpholine
LD50(rat): 1900 mg/kg

Propylene glycol
LD50(rat): 22000 mg/kg

Diethylenetriamine
LD50(rat): 1540 mg/kg

Acute Toxicity - Inhalation
Monoethanolamine
LC50(rat): > 1.48 mg/l

Tetrapotassium pyrophosphate
LC50(rat): > 1.1 mg/l

Morpholine
LC50: 8000 mg/m³

Propylene glycol
LC50(rabbit): > 317 mg/l

Acute Toxicity - Dermal
Tetrapotassium pyrophosphate
LD50(rabbit): > 2000 mg/kg

Morpholine
LD50(rabbit): 500 mg/kg

Propylene glycol
LD50(rabbit): > 2000 mg/kg

Diethylenetriamine
LD50(rabbit): 672 mg/kg

Ingestion
Harmful if swallowed. Ingestion of this product will cause nausea, vomiting, abdominal pain and chemical burns to the mouth, throat and stomach.

Inhalation
Fatal if inhaled.Inhalation may cause headaches, impairment of judgement and in extreme cases can lead to unconsciousness or death. Inhalation will result in respiratory irritation and possible harmful corrosive effects including lesions of the nasal septum, pulmonary edema, pneumonitis and emphysema.

Skin
Harmful in contact with skin. Product can be absorbed through skin with resultant harmful systemic effects. Causes burns. Corrosive to the skin. Skin contact can cause redness, itching, irritation, severe pain and chemical burns with resultant tissue destruction. May cause an allergic skin reaction.

Eye
Causes eye damage. Eye contact will cause stinging, blurring, tearing, severe pain and possible burns, necrosis, permanent damage and blindness.

Respiratory sensitisation
Not expected to be a respiratory sensitiser.

Skin Sensitisation
May cause an allergic skin reaction.

Germ cell mutagenicity
Not considered to be a mutagenic hazard.

Carcinogenicity
Not considered to be a carcinogenic hazard.

Morpholin is listed as a Group 3: Not classifiable as to carcinogenicity to humans according to International Agency for Research on Cancer (IARC).

Reproductive Toxicity
Not considered to be toxic to reproduction.

STOT-single exposure
Not expected to cause toxicity to a specific target organ.

STOT-repeated exposure
May cause respiratory irritation.

Aspiration Hazard
Not expected to be an aspiration hazard.

12. ECOLOGICAL INFORMATION

Ecotoxicity
Harmful to aquatic life.

Persistence and degradability
Not available

Mobility
Not available

Bioaccumulative Potential
Propylene glycol
Octanol/water partition coefficient: log Koe = -0.78
Bioaccumulation: BCF = 0.09

Other Adverse Effects
Not available

Environmental Protection
Prevent the material from entering the environment.

Acute Toxicity - Fish
Tetrapotassium pyrophosphate
LC50(oncorhynchus mykiss): > 100 mg/l/96h

Morpholine
LC50: 180 mg/l/96h

Propylene glycol
LC50(trutta iridea): 40613 mg/l/96h

Diethylenetriamine
LC50(leuciscus idus): 430 mg/l/96h

Acute Toxicity - Daphnia
Monoethanolamine

EC50(daphnia magna): 65 mg/l/48h

Tetrapotassium pyrophosphate
EC50(daphnia magna): > 100 mg/l/48h

Morpholine
EC50(daphnia sp.): 45 mg/l/48h

Propylene glycol
EC50(daphnia magna): 43500 mg/l/48h

Diethylenetriamine
EC50(daphnia magna): 53.5 mg/l/48h

Acute Toxicity - Algae
Tetrapotassium pyrophosphate
ECr50(desmodesmus subspicatus): > 100 mg/l/72h

Morpholine
ECr50: 58 mg/l/72h

Propylene glycol
ECr50(pseudokirchnerella subcapitata): 19000 mg/l/96h

Diethylenetriamine
ECr50(scenedesmus capricornutum): 1164 mg/l/72h

13. DISPOSAL CONSIDERATIONS

Disposal considerations
Dispose of waste according to applicable local and national regulations. Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes including emptied containers are controlled wastes and should be disposed of in accordance with all applicable local and national regulations.

14. TRANSPORT INFORMATION

Transport Information
Road and Rail Transport (ADG Code):
This material is classified as Dangerous Goods Division 6.1 Toxic Substance
Dangerous Goods are incompatible in a placard load with any of the following:
- Class 1: Explosives
- Class 3: Flammable Liquids, if the Class 3 dangerous goods are nitromethane
- Class 5, Oxidizing Substances and Organic Peroxides. If the Class 6 substance is a fire risk substance
- Class 8: Corrosive substances, if the Class 6 dangerous goods are cyanides and the Class 8 dangerous goods are acids

And are incompatible with food and food packaging in any quantity.

Marine Transport (IMO/IMDG):
Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.
Class/Division: 8
UN No: 3267
Proper Shipping Name: CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (CONTAINS DIETHYLENETRIAMINE)
Packing Group: II
EMS: F-A, S-B
Special Provisions: 274

Air Transport (ICAO/IATA):
Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

Class/Division: 8
UN No: 3267
Proper Shipping Name: Corrosive liquid, basic, organic, n.o.s. (Contains Diethylenetriamine)
Packing Group: II
Packaging Instructions (passenger & cargo): 851
Packaging Instructions (cargo only): 855
Hazard Label: Corrosive
Special Provisions: A3 A803

U.N. Number
3267

UN proper shipping name
CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.(Contains Diethylenetriamine)

Transport hazard class(es)
8

Packing Group
II

Hazchem Code
2X

IERG Number
37

IMDG Marine pollutant
No

Transport in Bulk
Not available

Special Precautions for User
Not available

15. REGULATORY INFORMATION

Regulatory information
Not classified as Hazardous according to the Globally Harmonised System of classification and labelling of chemicals (GHS) including Work, Health and Safety regulations, Australia.

Not classified as a Scheduled Poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

Poisons Schedule
Not Scheduled

16. OTHER INFORMATION

Date of preparation or last revision of SDS
SDS reviewed: September 2017
Supersedes: September 2011

References
- Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice.

- Standard for the Uniform Scheduling of Medicines and Poisons.

- Australian Code for the Transport of Dangerous Goods by Road & Rail.

- Model Work Health and Safety Regulations, Schedule 10: Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.

- Workplace exposure standards for airborne contaminants.

- Adopted biological exposure determinants, American Conference of Industrial Hygienists (ACGIH).

- Globally Harmonised System of classification and labelling of chemicals.

END OF SDS