

SECTION 1: Identification of the substance/mixture and of the supplier/undertaking**1.1. GHS product identifier**

Product form	: Mixture
Trade name	: STEAM-A3
Type of product	: Group,Polymers
Product code	: STEAM-A3
Product group	: Trade product

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

Recommended uses and restrictions	: Water treatment
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1.4. Supplier's details

ImproChem(Pty) Ltd T/A AECI Water
1 Wharhirst Road
Umbogintwini – Kwa Zulu Natal
South Africa
T +27(31) 949 8200

1.5. Emergency phone number

Emergency number	: 0800 SPILLS or 0800 774557
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SECTION 2: Hazard identification**2.1. GHS classification of the substance/mixture and any national or regional information****Classification according to the United Nations GHS**

Flammable liquids Not classified

Acute toxicity (oral) Not classified

Hazardous to the aquatic environment – Acute Hazard Not classified

Full text of H-statements: see section 16

Adverse physicochemical, human health and environmental effects : Causes skin and eye irritation, lung/respiratory system, May cause gastrointestinal irritation.

2.2. GHS label elements, including precautionary statements**Labelling according to the United Nations GHS**

Precautionary statements (GHS ZA) : P102 - Keep out of reach of children.

2.3. Other hazards which do not result in classification or are not covered by the GHS

No additional information available

SECTION 3: Composition/information on ingredients**3.1. Substance**

Not applicable

3.2. Mixture

This mixture does not contain any substances to be mentioned according to the applicable regulations

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According to Regulations for Hazardous Chemical Agents, 2021 and United Nations GHS revision 9

SECTION 4: First aid measures

4.1. Description of necessary first aid measures

First-aid measures general	: Treat symptomatically. If you feel unwell, seek medical advice.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water.
First-aid measures after eye contact	: Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention. Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Rinse mouth with water. Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital. Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms/effect, acute and delayed

Symptoms/effects	: Irritation.
Symptoms/effects after inhalation	: Irritation of the respiratory tract.
Symptoms/effects after skin contact	: Causes mild skin irritation.
Symptoms/effects after eye contact	: Causes eye irritation.
Symptoms/effects after ingestion	: Gastrointestinal complaints.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard	: It is unlikely that the product would burn . If the water is evaporated the organics present may be ignitable. Use extinguishing media suitable for surrounding materials.
Explosion hazard	: No direct explosion hazard.
Hazardous decomposition products in case of fire	: Carbon dioxide. Carbon monoxide.

5.3. Special protective actions for fire-fighters

Precautionary measures fire	: Exposure to fire/heat: keep upwind. Exposure to fire/heat: have neighbourhood close doors and windows.
Firefighting instructions	: No specific fire-fighting instructions required.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Avoid contact with skin and eyes. Do not handle until all safety precautions have been read and understood. Eliminate every possible source of ignition. Evacuate area.
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6.1.1. For non-emergency personnel

Protective equipment	: Wear recommended personal protective equipment.
Emergency procedures	: Avoid contact with skin, eyes and clothing. Evacuate area. Spill area may be slippery. Stop leak if safe to do so. Ventilate spillage area.

6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. Wear recommended personal protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	: Evacuate unnecessary personnel. Spill area may be slippery. Stop leak if safe to do so.

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6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and materials for containment and cleaning up

For containment	: Contain released substance, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply. Knock down/dilute dust cloud with water spray. Provide equipment/receptacles with earthing.
Methods for cleaning up	: Take up liquid spill into absorbent material. Scoop solid spill into closing containers. See "Material-handling" for suitable container materials. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.
Other information	: Dispose of materials or solid residues at an authorized site.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid inhalation of vapour and spray mist. Contaminated work clothing should not be allowed out of the workplace. Comply with the legal requirements. Ensure good ventilation of the work station.
Hygiene measures	: Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.
Additional hazards when processed	: Handle empty containers with care because residual vapours are flammable.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Facilities: shower, eye shower. Ensure adequate ventilation, especially in confined areas.
Storage conditions	: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed and dry. Keep in a cool, well-ventilated place away from acids. Keep only in the original container. Protect from freezing. Store in a well-ventilated place. Keep cool.
Storage area	: Store in a cool area. Store in a dry area. Keep container in a well-ventilated place. Keep out of direct sunlight. Provide the tank with earthing. Meet the legal requirements.
Incompatible materials	: Aluminium, brass, carbon steel, copper, nickel.
Heat and ignition sources	: KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.
Information on mixed storage	: KEEP SUBSTANCE AWAY FROM: oxidizing agents.
Special rules on packaging	: SPECIAL REQUIREMENTS: closing. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
Packaging materials	: SUITABLE MATERIAL: synthetic material.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls	: Ensure good ventilation of the work station.
Environmental exposure controls	: Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment

Hand protection	: neoprene gloves. Nitrile rubber. PVC gloves
Eye protection	: Protective goggles. Safety glasses
Skin and body protection	: Protective clothing
Respiratory protection	: In case of insufficient ventilation, wear suitable respiratory equipment
Personal protective equipment symbol(s)	

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8.4. Exposure limit values for the other components

No additional information available

SECTION 9: Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	: Liquid
Appearance	: No data available
Colour	: Yellow to orange . Fluorescent. Yellow to orange . Fluorescent
Odour	: Odourless. Odourless
Odour threshold	: No data available
pH	: 8.5 – 12 @ 25 C
pH solution	: No data available
Relative evaporation rate (butylacetate=1)	: < 1
Relative evaporation rate (ether=1)	: No data available
Melting point	: -6 °C
Freezing point	: No data available
Boiling point	: 114 °C (Average)
Flash point	: > 93 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability	: Non flammable.
Vapour pressure	: 2.01 kPa @ 20 C
Vapour pressure at 50°C	: No data available
Relative vapour density at 20°C	: 1.12 (Average)
Relative density	: No data available
Relative density of saturated gas/air mixture	: No data available
Density	: 1.17 – 1.22 kg/m ³ @ 25 C
Relative gas density	: No data available
Solubility	: Soluble in water.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Partition coefficient n-octanol/water (Log Kow)	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: 20.2 cP
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available
Lower explosion limit	: No data available
Upper explosion limit	: No data available
Physical state	: Liquid
Appearance	: No data available

9.2. Data relevant with regard to physical hazard classes (supplemental)

Other properties	: Physical properties depending on the composition.
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SECTION 10: Stability and Reactivity

10.1. Reactivity

Upon combustion: CO and CO₂ are formed.

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10.2. Chemical Stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Freezing.

10.5. Incompatible materials

Oxidizing agent.

10.6. Hazardous decomposition products

Carbon dioxide. Carbon monoxide. Sulphur dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified.
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

STEAM-A3 (9003-04-7)

LD50 oral rat	> 40000 mg/kg (For polyacrylate)
Skin corrosion/irritation	: Not classified pH: 8.5 – 12 @ 25 C
Serious eye damage/irritation	: Not classified pH: 8.5 – 12 @ 25 C
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Ecology - air	: Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water	: Mild water pollutant (surface water). Practically non-toxic to fishes (LC50 >100 mg/l). Slightly harmful to invertebrates (Daphnia) (EC50 > 100 mg/l). Practically non-toxic to algae (EC50 >100 mg/l).
Hazardous to the aquatic environment, short-term (acute)	: Not classified.
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

STEAM-A3 (9003-04-7)

LC50 - Fish [1]	7070 mg/l (Rainbow trout) (Based on a similar product)
LC50 - Fish [2]	13400 mg/l (Poecilia reticulata) (Based on a similar product)
EC50 - Crustacea [1]	> 6300 mg/l (Daphnai pulex) (Based on a similar product)

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STEAM-A3 (9003-04-7)

EC50 - Crustacea [2]	1650 mg/l (Daphnia magna) (Based on a similar product)
Threshold limit - Algae [1]	> 100 mg/l (EC50; OECD 201: Alga, Growth Inhibition Test; 72 h; Scenedesmus subspicatus)

12.2. Persistence and degradability

STEAM-A3 (9003-04-7)

Persistence and degradability	Not readily biodegradable in water.
Chemical oxygen demand (COD)	266000 mg/l

12.3. Bioaccumulative potential

STEAM-A3 (9003-04-7)

Bioaccumulative potential	No additional information available
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12.4. Mobility in soil

STEAM-A3 (9003-04-7)

Mobility in soil	No additional information available
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12.5. Other adverse effects

Ozone	: Not classified
Other adverse effects	: No additional information available

SECTION 13: Disposal Considerations

13.1. Disposal methods

Regional waste regulation	: Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of in accordance with relevant local regulations. Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations	: Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	: Remove waste in accordance with local and/or national regulations. Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber with energy recovery. Do not discharge into drains or the environment.

SECTION 14: Transport information

In accordance with SANS / IMDG / IATA

SANS	IMDG	IATA
14.1. UN number		
Not applicable	Not applicable	Not applicable
14.2. UN Proper Shipping Name		
Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)		
Not applicable	Not applicable	8
Not applicable	Not applicable	

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SANS	IMDG	IATA
14.4. Packing group, if applicable		
Not applicable	Not applicable	Not applicable
14.5. Environmental hazards		
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No
No supplementary information available		

14.6. Special precautions for user

SANS

Transport regulations (UN) : Not subject

IMDG

Transport regulations (IMDG) : Not subject
Special provisions (IMDG) : 223, 274
Limited quantities (IMDG) : 5 L
Excepted quantities (IMDG) : E1
Packing instructions (IMDG) : P001, LP01
IBC packing instructions (IMDG) : IBC03
Tank instructions (IMDG) : T7
Tank special provisions (IMDG) : TP1, TP28
EmS-No. (Fire) : F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage) : S-B - SPILLAGE SCHEDULE Bravo - CORROSIVE SUBSTANCES
Stowage category (IMDG) : A
Stowage and handling (IMDG) : SW2
Segregation (IMDG) : SGG1, SG36, SG49
Properties and observations (IMDG) : Causes burns to skin, eyes and mucous membranes.

IATA

Transport regulations (IATA) : Not subject
PCA Excepted quantities (IATA) : E1
PCA Limited quantities (IATA) : Y841
PCA limited quantity max net quantity (IATA) : 1L
PCA packing instructions (IATA) : 852
PCA max net quantity (IATA) : 5L
CAO packing instructions (IATA) : 856
CAO max net quantity (IATA) : 60L
Special provisions (IATA) : A3, A803
ERG code (IATA) : 8L

14.7. Transport in bulk according to IMO instructions

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations specific for the product in question

No additional information available

SECTION 16: Other information

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Abbreviations and acronyms : ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR - European Agreement concerning the International Carriage of Dangerous Goods by

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Road

ATE - Acute Toxicity Estimate

BCF - Bioconcentration factor

BLV - Biological limit value

BOD - Biochemical oxygen demand (BOD)

COD - Chemical oxygen demand (COD)

DMEL - Derived Minimal Effect level

DNEL - Derived-No Effect Level

EC-No. - European Community number

EC50 - Median effective concentration

EN - European Standard

IARC - International Agency for Research on Cancer

IATA - International Air Transport Association

IMDG - International Maritime Dangerous Goods

LC50 - Median lethal concentration

LD50 - Median lethal dose

LOAEL - Lowest Observed Adverse Effect Level

NOAEC - No-Observed Adverse Effect Concentration

NOAEL - No-Observed Adverse Effect Level

NOEC - No-Observed Effect Concentration

OECD - Organisation for Economic Co-operation and Development

OEL - Occupational Exposure Limit

PBT - Persistent Bioaccumulative Toxic

PNEC - Predicted No-Effect Concentration

RID - Regulations concerning the International Carriage of Dangerous Goods by Rail

SDS - Safety Data Sheet

STP - Sewage treatment plant

ThOD - Theoretical oxygen demand (ThOD)

TLM - Median Tolerance Limit

VOC - Volatile Organic Compounds

CAS-No. - Chemical Abstract Service number

N.O.S. - Not Otherwise Specified

vPvB - Very Persistent and Very Bioaccumulative

ED - Endocrine disrupting properties

Safety Data Sheet (SDS), South Africa (HCA)

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