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Material Safety Data Sheet

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifiers

Product name	Propylamine
Product number	W330210
Brand	3ASenrise
CAS number	107-10-8

1.2 Details of the supplier of the safety data sheet

Company: Anhui Senrise Technology Co., Ltd.
Address: No.88 Weisan Road, High-Tech Industrial Development Zone, Anqing, Anhui
Post code: 246003
Tel: 400-005-6266
Fax: 0556-5555368
Email: service@3asenrise.com

1.3 Emergency telephone

Emergency telephone: 0556-5500208

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

Identified uses: For R&D use only. Not for pharmaceutical, household or other uses.

2 HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Flammable liquids (Category 2), H225
Corrosive to Metals (Category 1), H290
Acute toxicity, Oral (Category 4), H302
Acute toxicity, Inhalation (Category 3), H331
Acute toxicity, Dermal (Category 3), H311
Skin corrosion (Sub-category 1B), H314
Serious eye damage (Category 1), H318
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

2.2 GHS label elements, including precautionary statements

Pictogram

Signal word: Danger

Hazard statement(s)

H314 Causes severe skin burns and eye damage.

H225 Highly Flammable liquid and vapour.
H302 Harmful if swallowed.
H335 May cause respiratory irritation.
H290 May be corrosive to metals.
H402 Harmful to aquatic life.
H311+H331 Toxic in contact with skin or if inhaled.

Precautionary statement(s)

Prevention

P280 Wear protective gloves/protective clothing/eye protection/face protection.
P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P234 Keep only in original container.
P270 Do not eat, drink or smoke when using this product.
P264 Wash hands thoroughly after handling.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P273 Avoid release to the environment.
P271 Use only outdoors or in a well-ventilated area.

Response

P390 Absorb spillage to prevent material damage.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P370+P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P305+P351+P338+P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P304+P340+P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P361+P364 Take off immediately all contaminated clothing and wash it before reuse.
P301+P312+P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.

Storage

P405 Store locked up.
P406 Store in corrosive resistant container with a resistant inner liner.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P403+P235 Store in a well-ventilated place. Keep cool.

Disposal

P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Physical and chemical hazards

H225 Highly Flammable liquid and vapour.
H290 May be corrosive to metals.

2.4 Health hazards

H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.

H302 Harmful if swallowed.
H335 May cause respiratory irritation.
H331 Toxic if inhaled.
H311 Toxic in contact with skin.

2.5 Environmental hazards Code

H402 Harmful to aquatic life.

2.6 Other hazards

No data available

3 COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture: Substance

3.1 Substance

Name	Propylamine
Formula	C3H9N
Molecular Weight	59.11
CAS	107-10-8
Concentration	98%

4 FIRST AID MEASURES

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with
water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

No data available.

5 FIREFIGHTING MEASURES

5.1 Extinguishing media

Dry powder Dry sand

5.2 Special hazards arising from the substance or mixture

Carbon oxides Nitrogen oxides (NOx) Combustible.

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations.

6.4 Reference to other section

For disposal see section 13.

7 HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition.Take precautionary measures against static discharge.

Hygiene measures

Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

Long term storage: RT

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

No data available.

8.2 Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses.

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product.

Body protection

Flame retardant antistatic protective clothing.

Respiratory protection

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

Control of environmental exposure

Do not let product enter drains. Risk of explosion.

9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Appearance	Colorless to light yellow liquid
b) Odor	ammoniacal
c) pH	12,6 at 100 g/l at 20 ° C
d) Melting point/freezing point	-83 ° C
e) Initial boiling point and boiling range	48 ° C
f) Upper/lower flammability or explosive limits	Upper explosion limit: 13.6 %(V) Lower explosion limit: 2.1 %(V)
g) Flash point	< -35 ° C
h) Evaporation rate	No data available
i) Vapor pressure	330 hPa at ca.19,6 ° C

j) Vapor density	2,04 - (Air = 1.0)
k) Density	0.719 g/cm3 at 25 ° C
l) Water solubility	at 20 ° C miscible in all proportions
m) Partition coefficient: n-octanol/water	No data available
n) Autoignition temperature	No data available
o) Decomposition temperature	> 300 ° C
p) Flammability	No data available

10 STABILITY AND REACTIVITY

10.1 Chemical stability

No data available.

10.2 Conditions to avoid

No data available.

10.3 Incompatible materials

acids, Acid chlorides, Acid anhydrides, Strong oxidizing agents

10.4 Hazardous decomposition products

In the event of fire: see section 5.

11 TOXICOLOGICAL INFORMATION

11.1 Acute toxicity

LD50 Oral

- Rat - male and female - 370 mg/kg

LC50 Inhalation

- Rat - male - 4 h - 6.32 mg/l - vapor

LD50 Dermal

- Rabbit - male - 403 mg/kg

11.2 Skin corrosion/irritation

Skin - Rabbit Result: Corrosive - 24 h

11.3 Serious eye damage/eye irritation

Eyes - Rabbit Result: Irreversible effects on the eye (Draize Test) Remarks: Causes serious eye damage.

11.4 Respiratory or skin sensitization

No data available

11.5 Germ cell mutagenicity

Tests on bacterial or mammalian cell cultures did not show mutagenic effects. Test Type: Ames test Test system: Escherichia coli/Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: neg

11.6 Carcinogenicity

No data available

11.7 Reproductive toxicity

No data available

11.8 Specific target organ toxicity - single exposure

May cause respiratory irritation.

11.9 Specific target organ toxicity - repeated exposure

No data available

11.10 Aspiration hazard

no data available.

11.11 Additional Information

Repeated dose toxicity - Rat - male and female - Oral - 98 - 119 Days - NOAEL (No observed adverse effect level) - 500 mg/kg Remarks: (in analogy to similar products) The value is given in analogy to the following substances: methylammonium chloride RTECS: UH9100000 Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Cough, Shortness of breath, Headache, Nausea To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Under given conditions, contact with nitrites or nitric acid can lead to the formation of nitrosamines, which have shown themselves to be carcinogenic in animal experiments. Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

12 ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish:
static test LC50 - Leuciscus idus (Golden orfe) - ca. 46 mg/l - 96 h
Toxicity to daphnia and other aquatic:
static test EC50 - Daphnia magna (Water flea) - 70.7 mg/l - 48 h
Toxicity to algae:
No data available
Toxicity to bacteria:
EC50 - Pseudomonas putida - 46 mg/l - 17 h

12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 14 d Result: 85 % - Readily biodegradable. Remarks: (in analogy to similar products) The value is given in analogy to the following substances: 1-amino-n- butane

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Other adverse effects

Harmful to aquatic life. Discharge into the environment must be avoided. Neutralization will reduce ecotoxic effects. May be harmful to aquatic organisms due to the shift of the pH.

13 DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Observe all federal, state and local regulations when disposing of the substance.

Contaminated packaging

Disposal must be made according to official regulations.

14 TRANSPORT INFORMATION

14.1 UN number

ADR/RID: 1277 IMDG: 1277 IATA: 1277

14.2 UN proper shipping name

ADR/RID: PROPYLAMINE
IMDG: PROPYLAMINE
IATA-DGR: Propylamine

14.3 Transport hazard class(es)

ADR/RID: 3(8) IMDG: 3(8) IATA: 3(8)

14.4 Packaging group

ADR/RID: II IMDG: II IATA: II

14.5 Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for user

No data available

15. REGULATORY INFORMATION

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

Applicable regulations

Regulations on the Control over Safety of Dangerous Chemicals.

This product is included in the list of dangerous chemicals.

Please pay attention to waste disposal and meet the requirements of local regulations.

16. OTHER INFORMATION

Abbreviations and acronyms

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

IMDG: International Maritime Dangerous Goods

IATA: International Air Transport Association

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

CAS: Chemical Abstracts Service (division of the American Chemical Society)

Further information

The above safety technical information is for reference only, because many physical and chemical properties are not entirely clear. Please consult information carefully before use and use after confirmation.

Anhui Senrise Technology Co., Ltd. shall not be held liable for any damage resulting from handling or from contact with the above product. More terms of use, see invoice information for details.

Tel： +86 -400-005-6266 Fax： +86 -0556-5555368 E-mail：Service@3asenrise.com

Add：No.88 Weisan Road, High-Tech Industrial Development Zone, Anqing, Anhui