

Revision Date 01.01.2025
Data of first issue 09.01.2017

Material Safety Data Sheet

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

1.1 Product identifiers

Product name Iodine
Product number E080698
Brand 3ASenrise
CAS number 7553-56-2

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

Acute toxicity, Oral (Category 4), H302
Acute toxicity, Inhalation (Category 4), H332
Acute toxicity, Dermal (Category 4), H312
Skin corrosion/irritation (Category 2), H315
Serious eye damage/eye irritation (Category 2A), H319
Specific target organ toxicity - single exposure (Category 3), respiratory tract irritation, H335
Specific target organ toxicity - repeated exposure, Oral (Category 1), Thyroid, H372
Short-term (acute) aquatic hazard (Category 1), H400

2.2 GHS label elements, including precautionary statements

Pictogram



Signal word: Danger

Hazard statement(s)

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H400 Very toxic to aquatic life.

H372 Causes damage to organs through prolonged or repeated exposure.

H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled.

Precautionary statement(s)

Prevention

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P270 Do not eat, drink or smoke when using this product.

P264 Wash hands thoroughly after handling.

P273 Avoid release to the environment.

P271 Use only outdoors or in a well-ventilated area.

Response

P332+P313 IF SKIN irritation occurs: Get medical advice/attention.

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.

P391 Collect spillage. Hazardous to the aquatic environment

P314 Get medical advice/attention if you feel unwell.

P304+P340+P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.

P302+P352+P312 IF ON SKIN: Wash with plenty of water. Call a POISON CENTER/doctor if you feel unwell.

P301+P312+P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.

Storage

P405 Store locked up.

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

Disposal

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

2.3 Physical and chemical hazards

No data available

2.4 Health hazards

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H332 Harmful if inhaled.

H335 May cause respiratory irritation.

H372 Causes damage to organs through prolonged or repeated exposure.

2.5 Environmental hazards Code

H400 Very toxic to aquatic life.

2.6 Other hazards

No data available

3 COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture: Substance

3.1 Substance

Name	Iodine
Formula	I ₂
Molecular Weight	253.81
CAS	7553-56-2
Concentration	99.8%

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

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.2 Special hazards arising from the substance or mixture

Hydrogen iodide Not combustible. Ambient fire may liberate hazardous vapours.

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	Gray to dark gray black spherical solid
b) Odor	pungent
c) pH	5.4
d) Melting point/freezing point	113 ° C
e) Initial boiling point and boiling range	184 ° C
f) Upper/lower flammability or explosive limits	No data available
g) Flash point	No data available
h) Evaporation rate	No data available
i) Vapor pressure	0.41 hPa at 25 ° C
j) Vapor density	No data available
k) Density	4.930 g/cm ³ at 20 ° C
l) Water solubility	0.3 g/l at 25 ° C – slightly soluble
m) Partition coefficient: n-octanol/water	No data available
n) Autoignition temperature	No data available
o) Decomposition temperature	No data available
p) Flammability	The product is not flammable.

10 STABILITY AND REACTIVITY

10.1 Chemical stability

No data available.

10.2 Conditions to avoid

No data available.

10.3 Incompatible materials

No data available

10.4 Hazardous decomposition products

In the event of fire: see section 5.

11 TOXICOLOGICAL INFORMATION

11.1 Acute toxicity

LD50 Oral

– Rat – 315 mg/kg

LC50 Inhalation

– Rat – male and female – 4 h – > 4,588 mg/l – dust/mist

LD50 Dermal

– Rabbit – male and female – 1,425 mg/kg

11.2 Skin corrosion/irritation

Skin – reconstructed human epidermis (RhE) Result: Moderate skin irritation

11.3 Serious eye damage/eye irritation

Remarks: Causes serious eye irritation.

11.4 Respiratory or skin sensitization

In animal experiments: – Mouse Result: negative

11.5 Germ cell mutagenicity

Test Type: Mutagenicity (mammal cell test): Test system: Mouse lymphoma test Metabolic activation: without metabolic activation Method: OECD Test Guideline 476 Result: negative

Test Type: In vivo micronucleus test Species: Mouse Application Route: Intrape

11.6 Carcinogenicity

No data available

11.7 Reproductive toxicity

No data available

11.8 Specific target organ toxicity - single exposure

Inhalation – May cause respiratory irritation. – Respiratory system

11.9 Specific target organ toxicity - repeated exposure

Oral – Causes damage to organs through prolonged or repeated exposure. – Thyroid

11.10 Aspiration hazard

no data available.

11.11 Additional Information

Repeated dose toxicity – Rat – female – Oral – 100 d Remarks: (as aqueous solution) Repeated dose toxicity – Rat – male and female – Oral – 29 – 47 d – NOAEL (No observed adverse effect level) – 10 mg/kg RTECS: NN1575000 Prolonged exposure to iodides may produce iodism in sensitive individuals. Symptoms of exposure include: skin rash, running nose, headache and irritation of the mucous membrane. For severe cases the skin may show pimples, boils, hives, blisters and black and blue spots. Iodides are readily diffused across the placenta. Neonatal deaths from respiratory distress secondary to goiter have been reported. Iodides have been known to cause drug-induced fevers, which are usually of short duration. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12 ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish:

static test LC50 – Oncorhynchus mykiss (rainbow trout) – 1.67 mg/l – 96 h

Toxicity to daphnia and other aquatic:

static test EC50 – Daphnia magna (Water flea) – 0.55 mg/l – 48 h EC50 – Daphnia magna (Water flea) – 0.2 mg/l – 48 h

Toxicity to algae:

Growth inhibition ErC50 – Desmodesmus subspicatus (green algae) – 0.13 mg/l – 72 h

Toxicity to bacteria:

EC50 – activated sludge – 280 mg/l – 3 h

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Other adverse effects

No data available

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: 3495 IMDG: 3495 IATA: 3495

14.2 UN proper shipping name

ADR/RID: IODINE

IMDG: IODINE

IATA-DGR: Iodine

14.3 Transport hazard class(es)

ADR/RID: 8(6.1) IMDG: 8(6.1) IATA: 8(6.1)

14.4 Packaging group

ADR/RID: III IMDG: III IATA: III

14.5 Environmental hazards

ADR/RID: yes IMDG Marine pollutant: yes 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

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