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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	Selenium powder
Product number	A64626
Brand	3ASenrise
CAS number	7782-49-2

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 3), H301
Acute toxicity, Inhalation (Category 3), H331
Specific target organ toxicity - repeated exposure (Category 2), H373
Long-term (chronic) aquatic hazard (Category 4), H413

2.2 GHS label elements, including precautionary statements

Pictogram

Signal word: Danger

Hazard statement(s)

H373 May cause damage to organs through prolonged or repeated exposure.
H413 May cause long lasting harmful effects to aquatic life.
H301+H331 Toxic if swallowed or if inhaled.

Precautionary statement(s)

Prevention

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

P314 Get medical advice/attention if you feel unwell.
P301+P310+P330 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.Rinse mouth.
P304+P340+P311 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor.

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

H331 Toxic if inhaled.
H373 May cause damage to organs through prolonged or repeated exposure.
H301 Toxic if swallowed.

2.5 Environmental hazards Code

H413 May cause long lasting harmful effects to aquatic life.

2.6 Other hazards

No data available

3 COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture: Substance

3.1 Substance

Name	Selenium powder
Formula	Se
Molecular Weight	78.96
CAS	7782-49-2
Concentration	-100mesh,99.99%(metals basis)

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

Selenium/selenium oxides 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	Grey to dark grey to black powder
b) Odor	No data available
c) pH	No data available
d) Melting point/freezing point	217 ° C - lit.
e) Initial boiling point and boiling range	684.9 ° C - lit.
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	> 0.001 hPa at 20 ° C
j) Vapor density	No data available
k) Density	4.81 g/cm3 at 25 ° C - lit.
l) Water solubility	0.1 g/l at 20.9 ° C - insoluble
m) Partition coefficient: n-octanol/water	No data available
n) Autoignition temperature	220 - 250 ° C at 1,013.25 hPa - Relative self-ignition temperature for solids
o) Decomposition temperature	No data available
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

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

No data available

LC50 Inhalation

No data available

LD50 Dermal

No data available

11.2 Skin corrosion/irritation

Skin - reconstructed human epidermis (RhE) Result: No skin irritation

11.3 Serious eye damage/eye irritation

Eyes - Bovine cornea Result: No eye irritation - 4 h

11.4 Respiratory or skin sensitization

Local lymph node assay (LLNA) - Mouse Result: negative

11.5 Germ cell mutagenicity

Test Type: Ames test Test system: Salmonella typhimurium Metabolic activation: with and without metabolic activation Result: negative Test Type: Chromosome aberration test Species: Mouse Cell type: Bone marrow Application Route: Intraperitoneal Result: ne

11.6 Carcinogenicity

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

11.7 Reproductive toxicity

No data available

11.8 Specific target organ toxicity - single exposure

No data available

11.9 Specific target organ toxicity - repeated exposure

May cause damage to organs through prolonged or repeated exposure.Aspiration hazard

11.10 Aspiration hazard

no data available.

11.11 Additional Information

Repeated dose toxicity - Rat - male and female - Oral - 13 Weeks - NOAEL (No observed adverse effect level) - 0.4 mg/kg Remarks: (in analogy to similar products) The value is given in analogy to the following substances: Sodium selenite RTECS: VS7700000 anemia, Vomiting, Diarrhea, Cough, Difficulty in breathing, Acute selenium poisoning produces central nervous system effects, which include nervousness, convulsions, and drowsiness. Other signs of intoxication can include skin eruptions, lassitude, gastrointestinal distress, teeth that are discolored or decayed, odorous ("garlic") breath, and partial loss of hair and nails. Chronic exposure by inhalation can produce symptoms that include pallor, coating of the tongue, anemia, irritation of the mucosa, lumbar pain, liver and spleen damage, as well as any of the other previously mentioned symptoms. Chronic contact with selenium compounds may cause garlic odor of breath and sweat, dermatitis, and moderate emotional instability. Dermatitis, garlic-like breath odor, pallor, nervousness, depression To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. After absorption: CNS disorders Dizziness muscular weakness Headache cardiovascular disorders Shortness of breath somnolence Cough Unconsciousness 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:
semi-static test LC50 - Oncorhynchus mykiss (rainbow trout) - > 100 mg/l - 96 h
Toxicity to daphnia and other aquatic:
static test EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h Remarks: (above the solubility limit in the test medium)
Toxicity to algae:
static test ErC50 - Pseudokirchneriella subcapitata (algae) - > 100 mg/l - 72 h
Toxicity to bacteria:
static test EC50 - activated sludge - > 3,200 mg/l - 3 h

12.2 Persistence and degradability

The methods for determining the biological degradability are to inorganic substances.

12.3 Bioaccumulative potential

Bioaccumulation Lepomis macrochirus - 60 d - 640 µg/l(Selenium) Bioconcentration factor (BCF): 7.7

12.4 Mobility in soil

No data available

12.5 Other adverse effects

Discharge into the environment must be avoided.

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: 3288 IMDG: 3288 IATA: 3288

14.2 UN proper shipping name

ADR/RID: SELENIUM POWDER

IMDG: SELENIUM POWDER

IATA-DGR: Selenium powder

14.3 Transport hazard class(es)

ADR/RID: 6.1 IMDG: 6.1 IATA: 6.1

14.4 Packaging group

ADR/RID: III IMDG: III IATA: III

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