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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 4-Chloro-2-nitroaniline  
Product number D050348  
Brand 3ASenrise  
CAS number 89-63-4

#### 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 2), H300  
Acute toxicity, Inhalation (Category 2), H330 Acute toxicity, Dermal (Category 1), H310  
Specific target organ toxicity - repeated exposure (Category 2), H373 Short-term (acute) aquatic hazard (Category 1), H400  
Long-term (chronic) aquatic hazard (Category 2), H411

#### 2.2 GHS label elements, including precautionary statements

##### Pictogram



**Signal word: Danger**

##### Hazard statement(s)

H300+H310+H330 Fatal if swallowed, in contact with skin or if inhaled.  
H373 May cause damage to organs through prolonged or repeated exposure.  
H411 Toxic to aquatic life with long lasting effects.

##### Precautionary statement(s)

## Prevention

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

P262 Do not get in eyes, on skin, or on clothing.

P264 Wash hands thoroughly after handling.

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

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

P273 Avoid release to the environment.

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

P284 Wear respiratory protection.

## Response

P301+P310+P330 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Rinse mouth.

P302+P352+P310 IF ON SKIN: Wash with plenty of water. 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.

P314 Get medical advice/attention if you feel unwell.

P361+P364 Take off immediately all contaminated clothing and wash it before reuse.

P391 Collect spillage. Hazardous to the aquatic environment

## Storage

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

P405 Store locked up.

## 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

H300 Fatal if swallowed.

H310 Fatal in contact with skin.

H330 Fatal if inhaled.

H373 May cause damage to organs through prolonged or repeated exposure.

## 2.5 Environmental hazards Code

H401 Toxic to aquatic life.

H411 Toxic to aquatic life with long lasting effects.

## 2.6 Other hazards

No data available

## 3 COMPOSITION/INFORMATION ON INGREDIENTS

### Substance / Mixture: Substance

#### 3.1 Substance

Name	4-Chloro-2-nitroaniline
Formula	C <sub>6</sub> H <sub>5</sub> ClN <sub>2</sub> O <sub>2</sub>
Molecular Weight	172.57
CAS	89-63-4
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**

Water Foam Carbon dioxide (CO<sub>2</sub>) Dry powder

### **5.2 Special hazards arising from the substance or mixture**

Carbon oxides Nitrogen oxides (NO<sub>x</sub>) Oxides of phosphorus Hydrogen chloride gas Combustible. Vapors are heavier than air and may spread along floors. Forms explosive mixtures with air on intense heating. Development of hazardous combustion gases or 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	Light yellow to yellow to orange to brown solid
b) Odor	No data available
c) pH	No data available
d) Melting point/freezing point	117 - 119 ° C
e) Initial boiling point and boiling range	≥ 290 ° C at 1,013 hPa - (decomposition)
f) Upper/lower flammability or explosive limits	No data available
g) Flash point	191 ° C
h) Evaporation rate	No data available
i) Vapor pressure	No data available
j) Vapor density	No data available
k) Density	No data available
l) Water solubility	No data available
m) Partition coefficient: n-octanol/water	No data available
n) Autoignition temperature	No data available
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 – Rabbit Result: No skin irritation

### **11.3 Serious eye damage/eye irritation**

Eyes – Rabbit Result: No eye irritation

### **11.4 Respiratory or skin sensitization**

Sensitisation test (Magnusson and Kligman): Result: negative

### **11.5 Germ cell mutagenicity**

Test Type: Micronucleus test Method: OECD Test Guideline 474 Result: negative

### **11.6 Carcinogenicity**

No data available

### **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**

No data available

### **11.10 Aspiration hazard**

no data available.

### **11.11 Additional Information**

RTECS: BX1575000 Absorption into the body leads to the formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. After absorption: Headache Dizziness Nausea Vomiting agitation Convulsions Cardiac irregularities Unconsciousness Effect potentiated by: ethanol Danger of cumulative effects. Other information The following applies to aromatic nitro compounds in general: systemic effect: methaemoglobinaemia with headache, cardiac dysrhythmias, drop in blood pressure, dyspnoea, and spasms; principal sign: cyanosis (blue discolouration of the blood). Further data: This substance should be handled with particular care.

## **12 ECOLOGICAL INFORMATION**

### **12.1 Toxicity**

Toxicity to fish:

LC50 – *Oryzias latipes* (Orange-red killifish) – 17.4 mg/l – 48 h

Toxicity to daphnia and other aquatic:

EC50 – *Daphnia magna* (Water flea) – 3.2 mg/l – 48 h

Toxicity to algae:

IC50 – algae – 1 – 10 mg/l – 72 h

Toxicity to bacteria:

EC50 – *E. coli* – 34 mg/l – 24 h

### **12.2 Persistence and degradability**

Biodegradability Result: 0 % – Not readily biodegradable.

### **12.3 Bioaccumulative potential**

No data available

#### **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: 2237 IMDG: 2237 IATA: 2237

#### **14.2 UN proper shipping name**

ADR/RID: CHLORONITROANILINES

IMDG: CHLORONITROANILINES

IATA-DGR: Chloronitroanilines

#### **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: 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

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.

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