

## Chemical Safety Data Sheet MSDS / SDS

## Metam-sodium SDS

Revision Date:2024-04-25 Revision Number:1

|           |            |            |            |            |            |            |            |
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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****Product identifier**

Product name: Metam-sodium  
CAS: 137-42-8

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

Relevant identified uses: For R&D use only. Not for medicinal, household or other use.  
Uses advised against: none

**Company Identification**

Company: Chemicalbook.in  
Address: 5 vasavi Layout Basaveswara Nilayam Pragathi Nagar Hyderabad, India -500090  
Telephone: +91 9550333722

**SECTION 2: Hazards identification****Classification of the substance or mixture**

Acute toxicity - Category 4, Oral  
Skin corrosion, Sub-category 1B

Skin sensitization, Category 1

Hazardous to the aquatic environment, short-term (Acute) - Category Acute 1

Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 1

### GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Danger

### Hazard statement(s)

H302 Harmful if swallowed

H314 Causes severe skin burns and eye damage

H317 May cause an allergic skin reaction

H410 Very toxic to aquatic life with long lasting effects

### Precautionary statement(s)

### Prevention

P264 Wash ... thoroughly after handling.

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

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

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

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P272 Contaminated work clothing should not be allowed out of the workplace.

P273 Avoid release to the environment.

### Response

P301+P317 IF SWALLOWED: Get medical help.

P330 Rinse mouth.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P363 Wash contaminated clothing before reuse.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P316 Get emergency medical help immediately.

P321 Specific treatment (see ... on this label).

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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

P333+P317 If skin irritation or rash occurs: Get medical help.  
P362+P364 Take off contaminated clothing and wash it before reuse.  
P391 Collect spillage.

#### **Storage**

P405 Store locked up.

#### **Disposal**

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

#### **Other hazards which do not result in classification**

no data available

### **SECTION 3: Composition/information on ingredients**

#### **Substance**

|                            |              |
|----------------------------|--------------|
| Chemical name:             | Metam-sodium |
| Common names and synonyms: | Metam-sodium |
| CAS number:                | 137-42-8     |
| EC number:                 | 205-293-0    |
| Concentration:             | 100%         |

### **SECTION 4: First aid measures**

#### **Description of necessary first-aid measures**

##### **If inhaled**

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

##### **Following skin contact**

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

### **Following eye contact**

Rinse with pure water for at least 15 minutes. Consult a doctor.

### **Following ingestion**

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

### **Most important symptoms/effects, acute and delayed**

Excerpt from ERG Guide 153 [Substances - Toxic and/or Corrosive (Combustible)]: TOXIC; inhalation, ingestion or skin contact with material may cause severe injury or death. Contact with molten substance may cause severe burns to skin and eyes. Avoid any skin contact. Effects of contact or inhalation may be delayed. Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution. (ERG, 2016)

### **Indication of immediate medical attention and special treatment needed, if necessary**

The usual measures for gut and skin decontamination are recommended for large doses. Disulfiram-alcohol reactions usually last several hours and respond to fluids, oxygen, and analgesics. Dysrhythmias may develop, and patients with serious reactions should have cardiac monitoring. Dithio- and thiocarbamates

## **SECTION 5: Firefighting measures**

### **Suitable extinguishing media**

If material on fire or involved in fire: Do not extinguish fire unless flow can be stopped. Use water in flooding quantities as fog. Solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water. Apply water from as far a distance as possible. Use "alcohol" foam, dry chemical or carbon dioxide. Thiocarbamate pesticides, liquid, toxic, flammable; Thiocarbamate pesticides, liquid, flammable, toxic

### **Specific hazards arising from the chemical**

Excerpt from ERG Guide 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2016)

### **Special protective actions for fire-fighters**

Wear self-contained breathing apparatus for firefighting if necessary.

## **SECTION 6: Accidental release measures**

### **Personal precautions, protective equipment and emergency procedures**

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

### **Environmental precautions**

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

### **Methods and materials for containment and cleaning up**

Environmental considerations: Land spill: Dig a pit, pond, lagoon, holding area to contain liquid or solid material. Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete. Absorb bulk liquid with fly ash, cement powder, or commercial sorbents. /SRP: If time permits, pits, ponds, lagoons, soak holes, or holding areas should be sealed with an impermeable flexible membrane liner. / Thiocarbamate pesticides, liquid, toxic, flammable; Thiocarbamate pesticides, liquid, flammable, toxic; Thiocarbamate pesticides, liquid, toxic

## **SECTION 7: Handling and storage**

### **Precautions for safe handling**

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

### **Conditions for safe storage, including any incompatibilities**

Store in a cool, dry place. Keep container closed when not in use. Do not store below 32 dg F. Product crystalizes at lower tempratures. Warm or store at higher tempratures and mix to redissolve crystals and assure uniformity before use. Vapam

## **SECTION 8: Exposure controls/personal protection**

## Control parameters

### Occupational Exposure limit values

|           |                           |                   |                          |                   |
|-----------|---------------------------|-------------------|--------------------------|-------------------|
| Component | Metam-sodium              |                   |                          |                   |
| CAS No.   | 137-42-8                  |                   |                          |                   |
|           | Limit value - Eight hours |                   | Limit value - Short term |                   |
|           | ppm                       | mg/m <sup>3</sup> | ppm                      | mg/m <sup>3</sup> |
| Latvia    | ?                         | 0,1               | ?                        | ?                 |
|           | Remarks                   |                   |                          |                   |

### Biological limit values

no data available

### Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

### Individual protection measures, such as personal protective equipment (PPE)

#### Eye/face protection

Wear tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

#### Skin protection

Wear fire/flame resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

#### Respiratory protection

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

#### Thermal hazards

no data available

## SECTION 9: Physical and chemical properties and safety characteristics

|   |   |
|---|---|
| Physical state:   | Metam sodium (compounds, weed, killing, liquid) is a yellow to light yellow-green solution with an odor of amine and sulfur that varies in intensity. |
| Colour:   | White crystals  |
| Odour:  | no data available   |
| Melting point/freezing point:                             | Decomposes without melting  |
| Boiling point or initial boiling point and boiling range: | 120.3°C at 760mmHg  |
| Flammability:   | no data available   |
| Lower and upper explosion limit/flammability limit:       | Non flammable. /Metham Sodium Dihydrate/  |
| Flash point:  | 26.6°C  |
| Auto-ignition temperature:                                | no data available   |
| Decomposition temperature:                                | no data available   |
| pH:   | no data available   |
| Kinematic viscosity:                                      | no data available   |
| Solubility:   | Moderately soluble in alcohol; stable in concentrated aqueous solution but decomposes in dilute aqueous solutions                                     |
| Partition coefficient n-octanol/water:                    | log Kow <1 at 25 deg C  |
| Vapour pressure:  | Non-volatile  |
| Density and/or relative density:                          | no data available   |

Relative vapour density: no data available

Particle characteristics: no data available

## SECTION 10: Stability and reactivity

### Reactivity

Slow reaction upon dilution produces toxic gases hydrogen sulfide and methylisothiocyanate. This reaction is accelerated by the addition of acid.

### Chemical stability

Stable with only slight decomp on storage for several yr in glass containers as 32.7% solution in alkaline water; pure solid decomposes in several weeks.

### Possibility of hazardous reactions

METAM SODIUM is a dithiocarbamate. Flammable gases are generated by the combination of thiocarbamates and dithiocarbamates with aldehydes, nitrides, and hydrides. Thiocarbamates and dithiocarbamates are incompatible with acids, peroxides, and acid halides. It will decompose upon dilution to carbon disulfide, monomethylamine, methylisothiocyanate, and hydrogen sulfide. The decomposition products are flammable and toxic. The acute symptoms of exposure to metam sodium are excessive salivation, sweating, fatigue, weakness, nausea, headache, dizziness, eye and respiratory tract irritation, and skin irritation in the form of rashes. The spillage of a rail car tanker of metam sodium into the Sacramento River caused a major fish kill (over a million trout) along several miles of that river.

### Conditions to avoid

no data available

### Incompatible materials

no data available

### Hazardous decomposition products

When heated to decomposition, it emits very toxic fumes of /nitrogen oxides, sulfur oxides, and disodium oxide/...



## SECTION 11: Toxicological information

### Acute toxicity

Oral: LD50 Rat (male) oral 780 mg/kg From table

Inhalation: LC50 Rat inhalation >6.8 mg/L/4 hr

Dermal: LD50 Rabbit percutaneous 2000 mg/kg

### Skin corrosion/irritation

no data available

### Serious eye damage/irritation

no data available

### Respiratory or skin sensitization

no data available

### Germ cell mutagenicity

no data available

### Carcinogenicity

Cancer Classification: Group B2 Probable Human Carcinogen

### Reproductive toxicity

no data available

### STOT-single exposure

no data available

### STOT-repeated exposure

no data available

### Aspiration hazard

no data available

## SECTION 12: Ecological information

### Toxicity

Toxicity to fish: EC50; Species: Danio rerio (Zebra danio, embryo, AB strain, 4 hr postfertilization); Conditions: saltwater, static, 28 deg C; Concentration: 0.30  $\mu$ M for 44 hr; Effect: development, notochord defect /100% purity

Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

### Persistence and degradability

AEROBIC: Sodium methyldithiocarbamate in soil breaks down by chemical means rather than by soil microorganisms(1). Data on the biodegradation of sodium methyldithiocarbamate in aquatic systems were not available(SRC, 2008).

### Bioaccumulative potential

Sodium methyldithiocarbamate hydrolyzes rapidly to form methyl isothiocyanate(1) and therefore is unlikely to bioconcentrate in aquatic organisms(SRC).

### Mobility in soil

Sodium methyldithiocarbamate hydrolyzes rapidly to form methyl isothiocyanate(1) and therefore is unlikely to adsorb or leach(SRC). In soil, this transformation occurs at an extent >90% (following first-order kinetics), corresponding to a half-life of about 0.06 days at 25 deg C(2). However, a coefficient of adsorption on soil organic matter ( $K_{om}$ ) of 228 L/kg has been reported(2).

### Other adverse effects

no data available

## SECTION 13: Disposal considerations

## **Disposal methods**

### **Product**

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

### **Contaminated packaging**

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

## **SECTION 14: Transport information**

### **UN Number**

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

### **UN Proper Shipping Name**

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

### **Transport hazard class(es)**

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

### **Packing group, if applicable**

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

### **Environmental hazards**

ADR/RID: Yes  
IMDG: Yes  
IATA: Yes

**Special precautions for user**

no data available

**Transport in bulk according to IMO instruments**

no data available

**SECTION 15: Regulatory information**

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

**European Inventory of Existing Commercial Chemical Substances (EINECS)**

Listed.

**EC Inventory**

Listed.

**United States Toxic Substances Control Act (TSCA) Inventory**

Not Listed.

**China Catalog of Hazardous chemicals 2015**

Not Listed.

**New Zealand Inventory of Chemicals (NZIoC)**

Listed.

**(PICCS)**

Listed.

**Vietnam National Chemical Inventory**

Listed.

IECSC)

Listed.

**Korea Existing Chemicals List (KECL)**

Not Listed.

## SECTION 16: Other information

### Abbreviations and acronyms

CAS: Chemical Abstracts Service

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

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

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

### References

IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>

HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: [http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)

CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>

Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

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