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

Product Name: Metam CLR 42%
Synonyms: Sodium N-methyldithiocarbamate
Use of the Substance/Preparation: Biocides, Agrochemical (soil disinfectant)
EPA Reg No: 45728-16
Company/Undertaking Identification: Taminco Inc.
Two Windsor Plaza, Suite 411
7540 Windsor Drive
Allentown, PA 18195
(800) 223-3258
Emergency telephone number: In case of emergency call CHEMTREC 1-800-424-9300
703-527-3887 (International Calls), 02-8014-4880 (Australia local calls)
For product information call (800) 223-3258

2. HAZARDS IDENTIFICATION

Appearance: yellow to brown liquid, amine-like odor
Emergency Overview: • DANGER!
• Corrosive
• Causes skin burns
• May be fatal if absorbed through skin
• Repeated or prolonged skin contact may cause allergic reactions with susceptible persons
• Harmful if swallowed
• Harmful by inhalation
• Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Principal Routes of Exposure: • Inhalation
• Skin contact
• Eye contact

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metam-sodium</td>
<td>137-42-8</td>
<td>27-42</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES
Ingestion

- Call a physician or Poison Control Centre immediately
- Rinse mouth
- Give small amounts of water to drink
- Do not induce vomiting without medical advice
- Never give anything by mouth to an unconscious person
- Take the container, label, or product name and Pest Control Registration Number with you when seeking medical attention.

Skin Contact

- Immediately flush skin with running water for 20 minutes or until no traces remain. Wash with soap and water. Remove contaminated clothing immediately.
- Wash contaminated clothing before re-use
- Call a physician or Poison Control Centre immediately

Eye Contact

- Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 20 minutes.
- Call a physician or Poison Control Centre immediately

Inhalation

- Move to fresh air
- If breathing is difficult, give oxygen
- If not breathing, give artificial respiration
- Call a physician or Poison Control Centre immediately

Notes to Physician

- Potential for aspiration if swallowed

### 5. FIRE-FIGHTING MEASURES

#### Suitable Extinguishing Media

- Water
- carbon dioxide (CO2)
- dry chemical
- foam

#### Specific methods

- Evacuate area and fight fire from a safe distance
- Keep containers and surroundings cool with water spray
- Wash/Decontaminate removed clothing before reuse
- Dike and collect water used to fight fire
- Water runoff can cause environmental damage
- Do not flush into surface water or sanitary sewer system

#### Special protective equipment for fire-fighters

- Firefighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear (full Bunker Gear) and self-contained breathing apparatus (pressure demand NIOSH approved or equivalent)

#### Specific hazards

- Heating or fire can release toxic gas
- Heating may cause a fire or explosion
- Decomposes after dilution with water to form hydrogen sulfide which is highly flammable and toxic.
- Toxic to fish
- Toxic to wildlife and domestic animals

### 6. ACCIDENTAL RELEASE MEASURES
Personal Precautions

- Wear suitable protective equipment
- Evacuate personnel to safe areas
- Keep people away from and upwind of spill/leak

Environmental Precautions

- Prevent product from entering drains
- Do not flush into surface water or sanitary sewer system
- Report spills as required by local and federal regulations.
- Toxic to fish
- Toxic to wildlife and domestic animals
- Read the product label for additional information.

Methods for Clean-up

- Prevent further leakage or spillage if safe to do so
- Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13)
- Read the product label for additional information.

7. HANDLING AND STORAGE

Storage

Technical measures/Precautions

- Protect containers from physical damage
- Keep in a dry, cool and well-ventilated place
- Store in original container
- Keep container tightly closed
- Keep away from food, drink and animal feedingstuffs
- Use spark-proof tools and explosion-proof equipment
- Do not use on, in or around the home
- Keep away from children
- Do not re-use empty containers
- Observe label precautions

Incompatible products

- Oxidizing agents
- water
- acids
- heavy metal salts
- metals

Handling

Technical measures/Precautions

- Wear personal protective equipment
- Ensure that eyewash stations and safety showers are close to the workstation location
- Handle in accordance with good industrial hygiene and safety practice
- When using, do not eat, drink or smoke
- It is a violation of Federal Law to use this product in a manner that is inconsistent with its labeling.
- Toxic to fish
- Toxic to wildlife and domestic animals
8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metam-sodium</td>
<td>Not listed</td>
<td>None Established</td>
</tr>
</tbody>
</table>

Respiratory Protection
- In the case of dust or aerosol formation use respirator with an approved filter.
- The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
- Handle in accordance with good industrial hygiene and safety practice.
- For additional information on the use and care of respiratory protection see product label.

Engineering measures
- Ensure adequate ventilation, especially in confined areas.
- For additional information on ventilation requirements see product label or consult the Worker Protection Standard for agricultural pesticides (40 CFR 170.240(d)).

Personal Protective Equipment

Eye Protection
- Tightly fitting safety goggles

Hand protection
- Impervious gloves
- Request information on glove permeation properties from the glove supplier

Skin Protection
- Wear suitable protective equipment.
- Choose body protection according to the amount and concentration of the dangerous substance at the work place.
- For information on the use and care of personal protective equipment see product label.

Other protective equipment
- Ensure that eyewash stations and safety showers are close to the workstation location.

Environmental exposure controls
- Prevent product from entering drains.
- Do not contaminate surface water.

9. PHYSICAL AND CHEMICAL PROPERTIES

General Information

Physical State           | Liquid         |
Color                    | yellow tint    |
Odor                     | Perceptible    |

Important Health Safety and Environmental Information
Boiling Point/Range 97 - 102°C
206 - 215°F
Flash Point Not applicable
Viscosity 3.54cSt @ 20°C
Vapor Pressure 0.0575Pa @ 25 °C (99.9%)
Relative density No information available
Partition Coefficient (n-octanol/water) log Pow -2.91
pH 7.5 - 10.5 (42% solution)
Water solubility 578.29 g/l (99.9%)
Oxidizing Properties none
Evaporation Rate Not applicable
Explosion Limits Not explosive
Explosive Properties Not applicable
Density 1.15 - 1.21 g/mL
Flammability not auto-flammable
Autoignition Temperature No data available

10. STABILITY AND REACTIVITY

Stability • Stable
Conditions to Avoid • Heat
• water
• acids
• Oxidizing agents
• metals
• heavy metal salts

Hazardous Decomposition Products • methyl isothiocyanate
• hydrogen sulfide
• MMA
• Carbon oxides
• nitrogen oxides (NOx)
• sulphur oxides
• Carbon disulfide

Hazardous Polymerization Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Eye Contact Contact with eyes may cause irritation.
Skin Contact May be fatal if absorbed through skin. Causes skin burns. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.
Inhalation Inhalation may cause severe mucous membrane and respiratory irritation, shortness of breath and pulmonary edema. Harmful if inhaled.
Ingestion
Harmful if swallowed. Ingestion may provoke the following symptoms: weakness, diarrhoea, lack of coordination, Neurological disorders, pain, numbness, central nervous system depression.

Chronic Effects
May cause damage to organs through prolonged or repeated exposure. Liver. Kidney. Bladder. Nasal Cavities. Use of alcoholic beverages may enhance toxic effects.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>IARC</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>NTP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metam-sodium</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

Aggravated Medical Conditions

Product Information
Information given is based on data on the components and the toxicology of similar products

| LD50/oral/rat = | 896 mg/kg |
| LD50/dermal/rat = | > 2000 mg/kg |
| LC50/inhalation/4h/rat = | 2.54 mg/l |
| Eye irritation | rabbit eye none |
| Skin irritation | rabbit skin Corrosive |
| Sensitization | Causes sensitization on guinea-pigs |
| Target Organ Effects | Nasal inner lining, Kidney, Liver, Bladder |
| Mutagenic Effects | Did not show mutagenic effects in animal experiments |
| Reproductive toxicity | No toxicity to reproduction |
| Carcinogenic effects | Did not show carcinogenic effects in animal experiments |

12. ECOLOGICAL INFORMATION

Ecotoxicity

| Toxicity to fish | LC50 : 0.10 - 100mg/l |
| EC50/48h/daphnia = | 1 - 10 mg/l |
| EC50/72h/algae = | 0.56 mg/l |
| Toxicity to bacteria | IC50 : 4.36 mg/l (3 h) |

Mobility
Koc = <50

Persistence and Degradability

aquatic environment
According to the results of tests of biodegradability this product is considered as being readily biodegradable

Bioaccumulative Potential
minimum
13. DISPOSAL CONSIDERATIONS

Waste disposal methods
Dispose of in accordance with local regulations

Contaminated Packaging
Empty containers should be taken for local recycling, recovery or waste disposal. Do not re-use empty containers.

14. TRANSPORT INFORMATION

DOT
- **Proper Shipping Name**: UN3267, Corrosive liquid, basic organic, N.O.S., (Metam-Sodium 42% in water), 8, PG II, Marine pollutant
- **Hazard Class**: 8
- **UN-No**: UN3267
- **Packing Group**: PG II
- **Reportable Quantity (RQ)**: None
- **Marine Pollutant**: Yes.
- **Labelling**: Corrosive

IMDG/IMO
- **Proper Shipping Name**: UN3267, Corrosive liquid, basic, organic, N.O.S., (Metam-Sodium 42% in water), 8, PG II, Marine pollutant
- **Hazard Class**: 8
- **UN-No**: UN3267
- **Packing Group**: PG II
- **Marine Pollutant**: Yes
- **Labelling**: Corrosive, Marine pollutant

IATA
- **UN-No**: UN3267
- **Proper Shipping Name**: UN3267, Corrosive liquid, basic, organic, N.O.S., (Metam-Sodium 42% in water), 8, PG II
- **Hazard Class**: 8
- **Packing Group**: PG II
- **Labelling**: Corrosive

15. REGULATORY INFORMATION

International Inventories

NOTE: X = Listed

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>TSCA</th>
<th>EINECS</th>
<th>DSL</th>
<th>ENCS</th>
<th>MITI</th>
<th>AICS</th>
<th>PICCS</th>
<th>IECSC</th>
<th>KECL</th>
<th>NZIoC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metam-sodium</td>
<td>205-293-0</td>
<td>X</td>
<td>2-1797</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OSHA HAZARD CLASSIFICATION: Corrosive, Toxic, Target Organ Effects

SARA 311/312 Hazardous Categorization
- Acute Health Hazard, Chronic Health Hazard
SARA TITLE III SECTION 313 INFORMATION:
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

NOTE: X = Listed

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>de minimus %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metam-sodium 137-42-8</td>
<td>X</td>
</tr>
</tbody>
</table>

CERCLA Hazardous Substances
This product does not contain any RQs or TPQs under this regulation.

State Right-to-Know

NOTE: X = Listed

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>PA</th>
<th>NJ</th>
<th>MA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metam-sodium 137-42-8</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

California Proposition 65
This product contains the following Proposition 65 chemicals:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Prop. 65</th>
</tr>
</thead>
</table>

WHMIS Hazard Class
D2A Very toxic materials
E Corrosive material

Canadian Environmental Protection Act
This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR

16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health</th>
<th>Flammability</th>
<th>Physical Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health</th>
<th>Fire</th>
<th>Instability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Legend: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

Literary Reference
-Taminco Proprietary Studies -IUCLID CD-ROM, 2000 -TOMES on line

Disclaimer: The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet