according to the OSHA Hazard Communication Standard



Metam CLR 42%

PRD / SDSUS / Z8 / 0330

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SECTION 1. IDENTIFICATION

Product name : Metam CLR 42%

Product code : P5105304

Manufacturer or supplier's details

Company name of supplier : Taminco US LLC

A Subsidiary of Eastman Chemical Company

Address : 200 South Wilcox Drive

Kingsport TN 37660

Telephone : (423) 229-2000

Emergency telephone : CHEMTREC: +1-800-424-9300, +1-703-527-3887 CCN7321

Recommended use of the chemical and restrictions on use

Recommended use : Agrochemical (soil disinfectant)

Restrictions on use : None known.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 4

Skin corrosion : Category 1B

Skin sensitization : Category 1

Carcinogenicity : Category 2

Reproductive toxicity : Category 2

Specific target organ toxicity:

- repeated exposure

Category 2

Corrosive to Metals : Category 1

GHS label elements

Hazard pictograms





Signal Word : Danger

Hazard Statements : H290 May be corrosive to metals.

H302 Harmful if swallowed. H332 Harmful if inhaled.

according to the OSHA Hazard Communication Standard



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H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

H361 Suspected of damaging fertility or the unborn child. H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary Statements

Prevention:

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

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

P264 Wash skin thoroughly after handling.

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

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

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

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

Response:

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

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

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.

P308 + P313 IF exposed or concerned: Get medical advice/

P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.

P363 Wash contaminated clothing before reuse.

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.

Other hazards

None known.

according to the OSHA Hazard Communication Standard



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SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components

Chemical name	CAS-No.	Concentration (% w/w)
metam sodium	137-42-8	>= 30 - < 50

Eastman is committed to the safety, health and environment of our employees, our customers, and the communities we operate within. As part of this commitment, Eastman's Safety Data Sheets (SDS) are prepared in accordance with all applicable national and local regulations. The compositions of our documents reflect these requirements which include, but are not limited to, requirements under the Globally Harmonized System of Classification and Labeling (GHS). These compositions commonly involve the use of ranges versus specific analytical values. If you require a composition that is more specific, please refer to the Certificate of Analysis, sales specification, or contact your Customer Service Representative.

SECTION 4. FIRST AID MEASURES

If inhaled : Move to fresh air.

If breathing is difficult, give oxygen.

If not breathing, give artificial respiration.

Treat symptomatically.

If symptoms persist, call a physician.

In case of skin contact : Wash off with soap and plenty of water.

Wash off immediately with plenty of water for at least 15

minutes.

Wash contaminated clothing before re-use.

In the case of skin irritation or allergic reactions see a

physician.

In case of eye contact : Rinse thoroughly with plenty of water for at least 15 minutes

and consult a physician.

If easy to do, remove contact lens, if worn.

Call a physician or poison control center immediately.

If swallowed : Seek medical advice.

Do not induce vomiting without medical advice.

Never give anything by mouth to an unconscious person.

Most important symptoms

and effects, both acute and

delayed

Health injuries may be delayed. Liver disorders

Kidney disorders

Rash Redness

Use of alcoholic beverages may enhance toxic effects

Harmful if swallowed. Harmful if inhaled.

Causes severe skin burns and eye damage.

May cause an allergic skin reaction. Suspected of causing cancer.

Suspected of damaging fertility or the unborn child.

May cause damage to organs through prolonged or repeated

exposure.

Notes to physician : General advice for dithiocarbamates

according to the OSHA Hazard Communication Standard



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Biomonitoring possible at chronical exposure: determination of

TTCA in the urine at the end of the workday/week.

Bloodtesting for delayed effects: livertests, kidney function,

thyroid function

Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Water spray

Carbon dioxide (CO2)

Dry chemical

Unsuitable extinguishing

Do not use a solid water stream as it may scatter and spread

fire

Specific hazards during fire:

fighting

Thermal decomposition can lead to release of irritating gases

and vapors.

Hazardous combustion prod-:

ucts

Carbon oxides

Nitrogen oxides (NOx)

Sulfur oxides

Further information : Do not allow run-off from fire fighting to enter drains or water

courses.

Special protective equipment:

for fire-fighters

Wear an approved positive pressure self-contained breathing

apparatus in addition to standard fire fighting gear.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protec- :

tive equipment and emer-

gency procedures

Use personal protective equipment.

Local authorities should be advised if significant spillages

cannot be contained.

Environmental precautions : Avoid release to the environment.

Methods and materials for containment and cleaning up

Sweep up or vacuum up spillage and collect in suitable

container for disposal.

Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local /

national regulations (see section 13).

SECTION 7. HANDLING AND STORAGE

Advice on protection against:

fire and explosion

Keep product and empty container away from heat and

sources of ignition.

Take precautionary measures against static discharges.

Advice on safe handling : Avoid inhalation of vapor or mist.

Do not get on skin or clothing.

Do not get in eyes.

Avoid contact with skin, eyes and clothing.

Do not swallow.

Ensure adequate ventilation. Wash thoroughly after handling.

Conditions for safe storage: Store in a well-ventilated place. Keep container tightly closed.

according to the OSHA Hazard Communication Standard



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Keep out of reach of children.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures Good general ventilation (typically 10 air changes per hour)

> should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne

levels to an acceptable level.

Personal protective equipment

Respiratory protection Wear respiratory protection.

Filter type Filter type ABEK-P

Hand protection

Remarks Rubber gloves Neoprene gloves The data about break

through time/strength of material are standard values! The exact break through time/strength of material has to be obtained from the producer of the protective glove.

Wear safety glasses with side shields (or goggles). Eye protection

Face-shield

Always wear eye protection when the potential for inadvertent

eve contact with the product cannot be excluded.

Skin and body protection

Complete suit protecting against chemicals

Protective measures Ensure that eye flushing systems and safety showers are

located close to the working place.

Handle in accordance with good industrial hygiene and safety Hygiene measures

practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance liquid

Color light yellow

7.5 - 10.5pΗ

Concentration: 510 g/l

Melting point/freezing point Not applicable

Boiling point/boiling range 207 - 216 °F / 97 - 102 °C

Flash point > 207 °F / > 97 °C

Evaporation rate not determined

Flammability (solid, gas) not auto-flammable

Upper explosion limit / Upper : not determined

according to the OSHA Hazard Communication Standard



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flammability limit

Lower explosion limit / Lower : not determined

flammability limit

Vapor pressure 0.000575 hPa (77 °F / 25 °C)

Relative vapor density not determined

1.21 (68 °F / 20 °C) Relative density

Density 1.15 - 1.21 g/cm3

Solubility(ies)

Water solubility 578.29 g/I (68 °F / 20 °C)

Partition coefficient: n-

octanol/water

log Pow: <= -2.91

752 °F / 400 °C Autoignition temperature

Decomposition temperature : 311 °F / 155 °C

Viscosity

Viscosity, dynamic : 4.7 mPa,s (68 °F / 20 °C)

2.8 mPa,s (104 °F / 40 °C)

Viscosity, kinematic 3.8 mm2/s (68 °F / 20 °C)

2.3 mm2/s (104 °F / 40 °C)

Explosive properties Not explosive

Oxidizing properties The substance or mixture is not classified as oxidizing.

SECTION 10. STABILITY AND REACTIVITY

None reasonably foreseeable. Reactivity Chemical stability Stable under normal conditions. Possibility of hazardous reac- :

tions

Corrosive in contact with metals

MITC vapor can be released during processing

Conditions to avoid Heat, flames and sparks.

Take precautionary measures against static discharges.

Incompatible materials Metals

Strong acids and oxidizing agents

Hazardous decomposition

products

Carbon dioxide (CO2) Nitrogen oxides (NOx)

Sulfur oxides

MITC vapor can be released during processing

according to the OSHA Hazard Communication Standard



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SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Harmful if swallowed or if inhaled.

Product:

Acute oral toxicity : LD50 Oral (Rat): 896 mg/kg

Acute inhalation toxicity : LC50 (Rat): 2.54 mg/l

Exposure time: 4 h

Acute dermal toxicity : LD50 Dermal: > 2,000 mg/kg

Components:

metam sodium:

Acute oral toxicity : LD50 (Rat): 896 mg/kg

Acute inhalation toxicity : LC50 (Rat): 2.54 mg/l

Exposure time: 4 h Test atmosphere: vapor

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

Skin corrosion/irritation

Causes severe burns.

Product:

Species : Rabbit

Result : Corrosive after 3 minutes to 1 hour of exposure

Components:

metam sodium:

Species : Rabbit Result : Corrosive

Serious eye damage/eye irritation

Causes serious eye damage.

Product:

Assessment : Causes serious eye damage.

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

Not classified based on available information.

according to the OSHA Hazard Communication Standard



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Product:

Species Guinea pig

Result Causes sensitization.

Components:

metam sodium:

Species Guinea pig

Result Causes sensitization.

Germ cell mutagenicity

Not classified based on available information.

Product:

Germ cell mutagenicity -

: Did not show mutagenic effects in animal experiments.

Assessment

Components:

metam sodium:

: Remarks: In vitro tests did not show mutagenic effects Genotoxicity in vitro

Carcinogenicity

Suspected of causing cancer.

Product:

Carcinogenicity - Assess- : Limited evidence of carcinogenicity in animal studies

ment

Components:

metam sodium:

Remarks : Limited evidence of a carcinogenic effect.

IARC No ingredient of this product present at levels greater than or equal to 0.1% is

identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is

on OSHA's list of regulated carcinogens.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is

identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Suspected of damaging fertility.

Product:

Effects on fertility : Remarks: No data available

Reproductive toxicity - As- : Possible risk of harm to the unborn child.

sessment

according to the OSHA Hazard Communication Standard



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STOT-single exposure

Not classified based on available information.

Product:

Remarks : No data available

STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Product:

Target Organs : Kidney, Nasal inner lining, Liver, Bladder

Assessment : May cause damage to organs through prolonged or repeated

exposure.

Components:

metam sodium:

Target Organs : Kidney, Nasal inner lining, Liver, Bladder

Aspiration toxicity

Not classified based on available information.

Product:

No aspiration toxicity classification

Experience with human exposure

Product:

Inhalation : Remarks: Harmful if inhaled.

May cause damage to organs through prolonged or repeated

exposure.

Skin contact : Remarks: Causes skin burns.

May cause an allergic skin reaction.

Eye contact : Remarks: Causes serious eye damage.

Ingestion : Remarks: Harmful if swallowed.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish : LC50 (Fish): 0.10 - 300 mg/l

Exposure time: 96 h

Toxicity to daphnia and other:

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 0.1 - 100 mg/l

Exposure time: 48 h

Toxicity to algae/aquatic

plants

EC50 (Selenastrum capricornutum (green algae)): 0.1 - 10

mg/l

Exposure time: 72 h

Toxicity to microorganisms : IC50 (Bacteria): 10 - 100 mg/l

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Exposure time: 3 h

Components:

metam sodium:

Toxicity to fish : LC50 (Fish): 0.0785 - 108 mg/l

Exposure time: 96 h

Toxicity to daphnia and other:

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 0.166 - 6.34 mg/l

Exposure time: 48 h

Toxicity to algae/aquatic

plants

EC50 (Selenastrum capricornutum (green algae)): 0.117 -

0.556 mg/l

Exposure time: 72 h

Toxicity to microorganisms : IC50 (Bacteria): 4.36 mg/l

Exposure time: 3 h

Persistence and degradability

Product:

Biodegradability : Remarks: Readily biodegradable

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Mobility in soil

Product:

Distribution among environ- : Koc: < 50

mental compartments

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of in accordance with local regulations.

Contaminated packaging : Empty containers should be taken to an approved waste

handling site for recycling or disposal.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

UN/ID No. : UN 3267

Proper shipping name : Corrosive liquid, basic, organic, n.o.s.

(metam sodium)

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Class : 8 Packing group : II

Labels : Corrosive Packing instruction (cargo : 855

aircraft)

Packing instruction (passen- : 85

ger aircraft)

IMDG-Code

UN number : UN 3267

Proper shipping name : CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.

(metam sodium)

Class : 8
Packing group : II
Labels : 8
EmS Code : F-A, S-B
Marine pollutant : yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

49 CFR

UN/ID/NA number : UN 3267

Proper shipping name : Corrosive liquid, basic, organic, n.o.s.

(metam sodium)

Class : 8 Packing group : II

Labels : CORROSIVE

ERG Code : 153

Marine pollutant : yes(metam sodium)

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Acute Health Hazard

Chronic Health Hazard

SARA 313 : The following components are subject to reporting levels

established by SARA Title III, Section 313:

according to the OSHA Hazard Communication Standard



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metam sodium 137-42-8

California Prop. 65

WARNING: This product can expose you to chemicals including metam sodium, which is/are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

The ingredients of this product are reported in the following inventories:

TCSI : On the inventory, or in compliance with the inventory

TSCA : Product contains substance(s) not listed on TSCA inventory.

AIIC : On the inventory, or in compliance with the inventory

DSL : All components of this product are on the Canadian DSL

ENCS : On the inventory, or in compliance with the inventory

ISHL : On the inventory, or in compliance with the inventory

PICCS : On the inventory, or in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory

NZIoC : On the inventory, or in compliance with the inventory

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Further information

according to the OSHA Hazard Communication Standard

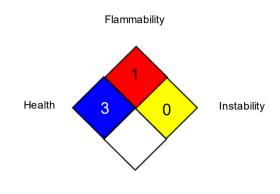


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NFPA 704:



Special hazard

HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

AllC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC -International Agency for Research on Cancer: IATA - International Air Transport Association: IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization: IECSC - Inventory of Existing Chemical Substances in China: IMDG - International Maritime Dangerous Goods: IMO - International Maritime Organization: ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZloC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act

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(United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Revision Date : 07/18/2024

The information provided in 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.

US / Z8