SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Revision Date 07/14/2014 Version 2.2

SECTION 1. Identification

Product identifier

Product number	102426
Product name	Chloramine T trihydrate GR for analysis ACS,Reag. Ph Eur
CAS-No.	7080-50-4

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

Identified uses	Reagent for analysis

Details of the supplier of the safety data sheet

Company	EMD Millipore Corporation | 290 Concord Road, Billerica, MA 01821, United States of America | General Inquiries: +1-978-715-4321 | Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)
Emergency telephone	800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

SECTION 2. Hazards identification

GHS Classification

Acute toxicity, Category 4, Oral, H302
Skin corrosion, Category 1B, H314
Respiratory sensitization, Category 1, H334

For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS-Labeling

Hazard pictograms

Signal Word
Danger

Hazard Statements
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary Statements
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

OSHA Hazards
This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS and may deviate from the GHS information.

Other hazards
None known.

SECTION 3. Composition/information on ingredients

Formula	$CH_3C_6H_4SO_2NClNa * 3\ H_2O$ $C_7H_7ClNaNO_2S * 3\ H_2O$ (Hill)	$C_7H_7ClNaNO_2S * 3\ H_2O$
Molar mass	281.69 g/mol	

Hazardous ingredients
Chemical Name (Concentration)
CAS-No.
Chloramine T trihydrate (>= 90 % - <= 100 %)
7080-50-4
Exact percentages are being withheld as a trade secret.

SECTION 4. First aid measures

Description of first-aid measures

General advice
First aider needs to protect himself.

Inhalation
After inhalation: fresh air. Consult a physician.

Skin contact
After skin contact: wash off with plenty of water. Remove contaminated clothing. Call a physician immediately.

Eye contact
After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist.

Ingestion
After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation!). Call a physician immediately. Do not attempt to neutralize.

Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

Irritation and corrosion, Cough, Shortness of breath
Risk of blindness!

Indication of any immediate medical attention and special treatment needed
No information available.

SECTION 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media
Water, Carbon dioxide (CO2), Foam, Dry powder

Unsuitable extinguishing media
For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture
Combustible.
In the event of decomposition: danger of explosion!
Development of hazardous combustion gases or vapors possible in the event of fire.
Fire may cause evolution of:
Sulfur oxides, Hydrogen chloride gas, nitrogen oxides

Advice for firefighters

Special protective equipment for fire-fighters
Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information
Cool closed containers exposed to fire with water spray. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

Environmental precautions
Do not empty into drains.

Methods and materials for containment and cleaning up
Cover drains. Collect, bind, and pump off spills.
Observe possible material restrictions (see sections 7 and 10).
Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

SECTION 7. Handling and storage

Precautions for safe handling
Work under hood. Do not inhale substance/mixture.

Observe label precautions.

Conditions for safe storage, including any incompatibilities

Tightly closed. Dry.

Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Store at +2°C to +8°C (+36°F to +46°F).

SECTION 8. Exposure controls/personal protection

Exposure limit(s)

Contains no substances with occupational exposure limit values.

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

Hygiene measures

Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance.

Eye/face protection

Tightly fitting safety goggles

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Other protective equipment:

protective clothing

Respiratory protection

required when dusts are generated.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

SECTION 9. Physical and chemical properties

Physical state	solid
Color	light yellow
Odor	slight chlorine
Odor Threshold	No information available.

pH	8 - 10 at 50 g/l 68 °F (20 °C)
Melting point	decomposes
Boiling point/boiling range	not applicable
Flash point	No information available.
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapor pressure	No information available.
Relative vapor density	No information available.
Density	No information available.
Relative density	No information available.
Water solubility	150 g/l at 77 °F (25 °C)
Partition coefficient: n-octanol/water	log Pow: 0.84 (calculated) (anhydrous substance) Bioaccumulation is not expected. (Lit.)
Autoignition temperature	No information available.
Decomposition temperature	> 140 °F (> 60 °C)
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none
Bulk density	540 - 680 kg/m³

SECTION 10. Stability and reactivity

Reactivity

The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

Chemical stability
Sensitive to air.

Possibility of hazardous reactions
A risk of explosion and/or of toxic gas formation exists with the folllowing substances:
acids
Violent reactions possible with:
Strong oxidizing agents

Conditions to avoid
Heating (explosive decomposition).

Incompatible materials
no information available

Hazardous decomposition products
in the event of fire: See section 5.

SECTION 11. Toxicological information

Information on toxicological effects

Likely route of exposure
Eye contact, Skin contact, Ingestion

Target Organs
Eyes
Respiratory system
Skin

Acute oral toxicity
LD50 rat: 935 mg/kg (IUCLID)

absorption
Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.

Acute inhalation toxicity
LC50 rat: > 0.275 mg/l; 4 h (IUCLID)

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract

Skin irritation
rabbit
Result: Causes burns.
(IUCLID)
Causes burns.

Eye irritation
Causes serious eye damage.
Risk of blindness!

Sensitization
Human experience
Result: positive
(HSDB)

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Genotoxicity in vivo
Mutagenicity (mammal cell test): micronucleus.
Result: negative
(IUCLID)

Genotoxicity in vitro
Ames test
Result: negative
(IUCLID)

Specific target organ systemic toxicity - single exposure
The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ systemic toxicity - repeated exposure
The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard
Regarding the available data the classification criteria are not fulfilled.

Carcinogenicity

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 ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
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.
ACGIH	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Further information
After absorption:
We have no description of any toxic symptoms.
Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

Ecotoxicity

Toxicity to fish
LC50 Poecilia retiaculata (guppy): 31 mg/l; 96 h
OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates
EC50 Daphnia magna (Water flea): 4.5 mg/l; 48 h (IUCLID)

NOEC Daphnia magna (Water flea): 1.1 mg/l; 21 d
OECD Test Guideline 202

Toxicity to algae
IC50 Desmodesmus subspicatus (green algae): 0.31 mg/l; 48 h (ECOTOX Database)

Persistence and degradability
Biodegradability
90 %; 28 d
OECD Test Guideline 301A
Readily biodegradable.

Bioaccumulative potential
Partition coefficient: n-octanol/water
log Pow: 0.84
(calculated)
(anhydrous substance) Bioaccumulation is not expected. (Lit.)

Mobility in soil
No information available.

Additional ecological information
Discharge into the environment must be avoided.

SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

SECTION 14. Transport information

Land transport (DOT)

UN number	UN 2928
Proper shipping name	TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S. (N-CHLORO-4-TOLUENESULFONAMIDE SODIUM SALT)
Class	6.1 (8)
Packing group	II
Environmentally hazardous	--

Air transport (IATA)

UN number	UN 2928
Proper shipping name	TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S. (N-CHLORO-4-TOLUENESULFONAMIDE SODIUM SALT)
Class	6.1 (8)
Packing group	II
Environmentally hazardous	--

Special precautions for user	no

Sea transport (IMDG)

UN number	UN 2928
Proper shipping name	TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S. (N-CHLORO-4-TOLUENESULFONAMIDE SODIUM SALT)
Class	6.1 (8)
Packing group	II
Environmentally hazardous	--
Special precautions for user	yes
EmS	F-A S-B

SECTION 15. Regulatory information

United States of America

OSHA Hazards

Highly toxic by inhalation
Harmful if swallowed.
Corrosive to skin
Respiratory sensitizer
Corrosive to eyes
Corrosive by inhalation.

This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS, and may deviate from the GHS information on the label and in section 2.

SARA 311/312 Hazards

Acute Health Hazard

SARA 313

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 302

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

DEA List I

Not listed

DEA List II

Not listed

US State Regulations

Massachusetts Right To Know

Remarks

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know

Ingredients

Chloramine T trihydrate

New Jersey Right To Know

Ingredients

Chloramine T trihydrate

California Prop 65 Components

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

Notification status

TSCA:	All components of the product are listed in the TSCA-inventory.
DSL:	All components of this product are on the Canadian DSL.

SECTION 16. Other information

Training advice

Provide adequate information, instruction and training for operators.

Full text of H-Statements referred to under sections 2 and 3.

H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

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