HALAMID®
THE UNIVERSAL DISINFECTANT

Axcentive SARL
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SAFETY DATA SHEET

Safety data sheet according to (EF) no. 1907/2006.

POINT 1: Identification of material/compounds and of the company/factory

1.1. Product identifier:

Product form:	Substance
Name:	Tosylchloramide sodium
Trade name:	Halamid®
EC-No.:	204-854-7
CAS-No.:	7080-50-4
Synonyms:	Chloramine T
Other means of identification:	CAS-No. 127-65-1 (anhydrous form not commercially available)

1.2. Relevant identifying use of the material or compound and the usage that is contraindicated:

Industrial/Professional use spec:	Industrial use Professional uses
Use of the substance/mixture:	Disinfectant Biocidal products Fine chemicals

1.3. Detailed information about the supplier for the safety data sheet:

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Responsible for safety data sheet (e-mail): info@axcentive.com

1.4. Emergency phone:

Contact the poison centre in your own country.

POINT 2: Identification of danger

2.1. Classification of the material or compound:

CLP (1272/2008): H302, category 4; H314: category 1, subcategory 1B; H334: category 1

2.2. Label elements:

DANGER

H302:	Harmful if swallowed.
H314:	Causes severe skin burns and eye damage.
H334:	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
P260:	Do not breathe dust/fume/gas/mist/vapours/spray.
P280:	Wear protective gloves/protective clothing/eye protection/face protection.
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.
P304+P340:	IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
EUH031: Contact with acids liberates toxic gas.

The wording of the hazard statements - see paragraph 16.

2.3. Other dangers:
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

POINT 3: Compensation of/information about contents

3.1. Compensation of/information about contents

3.2. Compounds:

Substance name	CAS	EF-No.	Index-no.	REACH reg.no.	Substance Classification
Sodium p-toluenesulfonchloramide, trihydrate	7080-50-4	204-854-7	616-010-00-9	01-2120772085-53	Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Resp. Sens. 1, H334

The wording of the hazard statements - see paragraph 16.

POINT 4: First aid measures

4.1. Description of first aid measures:
First-aid measures general: Avoid contact with skin, eyes and clothing. First aider: Pay attention to self-protection!. Call a physician immediately.
First-aid measures after inhalation: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a physician immediately.
First-aid measures after skin contact: Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.
First-aid measures after eye contact: Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion: Seek medical attention immediately. Rinse mouth with water. Drink plenty of water. Do not induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed:
Symptoms/effects after inhalation: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Symptoms/effects after skin contact: Burns. irritation (itching, redness, blistering).
Symptoms/effects after eye contact: Burns. irritation (itching, redness, blistering).
Symptoms/effects after ingestion: Causes severe burns. Burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

4.3. Indication of whether emergency medical attention and special treatment are needed:
Treat symptomatically.

POINT 5: Fire suppression

5.1. Suppression methods:
Suitable extinguishing media: Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media: None.

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5.2. Special dangers in connection with the material or compound:
Hazardous decomposition products in case of fire : Toxic fumes may be released. Thermal decomposition generates: Nitrogen oxides, Sulphur oxides, Hydrogen chloride.

5.3. Indication for a fire department:
Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

POINT 6: Accidental release measures

6.1. Personal precautions, personal protective equipment, and emergency procedures:
Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes. Do not breathe dust.
Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental protection indications:
Avoid release to the environment.

6.3. Methods and equipment for containment and cleaning:
Methods for cleaning up : Shovel or sweep up and put in a closed container for disposal. Avoid dust formation. Ventilate the area thoroughly. Clean contaminated surfaces with an excess of water.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. References to other points:
For further information refer to section 13.

POINT 7: Handling and storage

7.1. Measures for safe handling:
Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Do not breathe dust. Wear personal protective equipment. Refer to section 8.2. Keep away from: heat, sparks, flames.
Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibility:
Storage conditions : Store tightly closed in a dry and cool place. Store in a well-ventilated place. Protect from sunlight.
Incompatible materials : Acids. Moisture.

7.3. Special usage:
No additional information available

PUNKT 8: Exposure control/personal protective equipment

8.1. Control parameter:
Additional information : No information available
Recommended monitoring procedures: No additional information available
Air contaminants formed: No additional information available

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DNEL:	Exposure	Value
Tosylchloramide sodium	Long-term - systemic effects, dermal Long-term - systemic effects, inhalation Long-term - systemic effects,oral Long-term - systemic effects, inhalation Long-term - systemic effects, dermal	13.5 mg/kg bodyweight/day 19.1 mg/m^3 1.6 mg/kg bodyweight/day 5.65 mg/m^3 8.1 mg/kg bodyweight/day
PNEC:	**Medium**	**Value**
Tosylchloramid-natrium	PNEC aqua (freshwater) PNEC sewage treatment plant	0.11 mg/l 0.057 mg/l

8.2. Exposure control:

Appropriate engineering controls:
Ensure good ventilation of the work station. Use at industrial sites: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Personal protective equipment: Wear recommended personal protective equipment.

Eye protection: Safety goggles

Skin and body protection: Wear suitable protective clothing

Hand protection: Protective gloves. Unsuitable materials: Leather protective gloves, Textiles. Natural rubber, Nitrile rubber (NBR), Butyl rubber, Polyvinylchloride (PVC), Permeation 6 (> 480 minutes), Thickness (mm) 0.5, Standard: EN 374.

Respiratory protection: In case of inadequate ventilation wear respiratory protection. Dust mask, Half-face mask (DIN EN 140), Type P2, White, Measures in case of dust release.

Thermal hazards: No additional information available

Environmental exposure controls: Avoid release to the environment.

POINT 9: Physical and chemical characteristics

9.1. Information about basic physical and chemical characteristics:

Physical state:	Solid
Colour:	White
Appearance:	Crystalline powder
Molecular mass:	281.5 g/mol
Odour:	Chlorine, (slight)
Odour threshold:	Not available
Melting point:	165 °C (Decomposes)
Freezing point:	Not applicable
Boiling point:	Decomposes
Flammability:	Non flammable.
Explosive properties:	Not explosive
Explosive limits:	Not applicable
Flash point:	192 °C (closed cup)
Auto-ignition temperature:	600 °C (101 kPa)
Decomposition temperature:	> 165 °C (OECD 102 method)
pH:	Not relevant
pH solution:	8 – 10.3 (@5%)

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Viscosity, kinematic:	Not relevant
Viscosity, dynamic:	Not relevant
Solubility:	Water: 150 g/l (25°C)
Ethanol:	75 g/l (20°C)
Partition coefficient n-octanol/water (Log Pow):	-1.3 (20°C)
Vapour pressure:	≈ 0 Pa (25°C)
Density:	Not available
Relative density:	1.401
Relative vapour density at 20 °C:	Not relevant
Particle characteristics:	Not available

9.2. Other information:

Oxidising properties:	Non oxidizing
Relative evaporation rate (butylacetate=1):	Not relevant
Other properties:	Dissociation constant pKa 4.6 (@25°C)

POINT 10: Stability and reactivity

10.1. Reactivity:
Contact with acids liberates toxic gas.

10.2. Chemical stability:
Stable under normal conditions.

10.3. Risk of dangerous reactions:
No dangerous reactions known under normal conditions of use.

10.4. Conditions that should be avoided:
Keep away from: heat, sparks, flames.

10.5. Materials that should be avoided:
Acids. Moisture.

10.6. Dangerous decomposition products:
Chlorine. Under normal conditions of storage and use, hazardous decomposition products should not be produced.

POINT 11: Toxicological information

11.1. Information about hazard classes as defined in Regulation (EC) No 1272/2008:

Acute toxicity (oral):	Harmful if swallowed.
Acute toxicity (dermal):	Not classified
Acute toxicity (inhalation):	Not classified

Sodium p-toluenesulfonchloramide, trihydrate	LD_{50} oral rat	> 381.6 mg/kg bodyweight (OECD 401 method)
	LD_{50} dermal rat	> 2000 mg/kg (8% solution)
	LC_{50} Inhalation - rat	> 0.275 mg/l/4h (max. attained concentration)

Skin corrosion/irritation:	Causes severe skin burns. Aqueous solution. Not irritating @ ≤8% pH: Not relevant
Serious eye damage/irritation:	Causes serious eye damage. Aqueous solution. Not irritating @ ≤8% pH: Not relevant
Respiratory or skin sensitisation:	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Germ cell mutagenicity:	Not classified

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Carcinogenicity:	Not classified
Reproductive toxicity:	Not classified
STOT-single exposure:	Not classified
STOT-repeated exposure:	Not classified
Aspiration hazard:	Not classified

Tosylchloramide sodium	Viscosity, kinematic	Not relevant

11.2. Information about other hazards:
Endocrine disrupting properties: No additional information available
Other information: No additional information available

POINT 12: Environmental information

12.1. Toxicity:
Hazardous to the aquatic environment, short-term (acute): Not classified
Hazardous to the aquatic environment, long-term (chronic): Not classified

Sodium p-toluenesul-fonchlora-mide, trihydrate	LC_{50} fish 1	100 mg/l
	EC_{50} Daphnia 1	4.5 mg/l (Exposure time: 48 h - Species: Daphnia magna)
	ErC_{50} (algae)	13 mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata)
	NOEC chronic, fish	> 1.1 mg/l (Exposure time: 35 d - Species: Pimephales promelas)
	NOEC chronic, crustacea	> 1.1 mg/l (Exposure time: 21 d - Species: Daphnia magna)
	NOEC chronic, algae	> 3 mg/l

12.2. Persistence and degradability:
Tosylchloramide sodium: Readily biodegradable.

12.3. Bioaccumulative potential:
Tosylchloramide sodium: Partition coefficient n-octanol/water (Log Pow) -1.3 (20°C)

12.4. Mobility in soil:
No additional information available

12.5. Results of PBT and vPvB assessment:
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Endocrine-disrupting capacities:
No additional information available

12.7. Other adverse effects:
No additional information available

POINT 13: Removal

13.1. Methods for waste handling:
Dispose of contents/container in accordance with licensed collector's sorting instructions.

POINT 14: Transport information

14.1. UN-number or ID-number: UN 3263
14.2. UN-shipment designation (UN proper shipping name): CORROSIVE SOLID, BASIC, ORGANIC, N.O.S. (Sodium ptoluenesulfonchloramide, trihydrate)

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14.3. Transport danger class(es): 8
14.4. Packaging group: III
14.5. Environmental dangers: No.
14.6. Special regulations for the user: None.
14.7. Bulk transport by sea according to IMO instruments: Not relevant.

POINT 15: Information about regulations

15.1. Special determinations/special rules for the material or compound with respect to safety, health and environment:
No REACH Annex XVII restrictions
Tosylchloramide sodium is not on the REACH Candidate List
Tosylchloramide sodium is not on the REACH Annex XIV List
Tosylchloramide sodium is not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 july 2012 concerning the
export and import of hazardous chemicals.
Tosylchloramide sodium is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants
May not be used by persons under the age of 18.

15.2. Chemical safety evaluation:
A chemical safety assessment has been carried out

POINT 16: Other information

Hazard statements given under point 3:

Acute Tox. 4 (Oral):	Acute toxicity (oral), Category 4
Resp. Sens. 1:	Respiratory sensitisation, Category 1
Skin Corr. 1B:	Skin corrosion/irritation, Category 1, Sub-Category 1B
H302:	Harmful if swallowed.
H314:	Causes severe skin burns and eye damage.
H334:	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
EUH031:	Contact with acids liberates toxic gas.

Abbreviations:
ADN = European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR = European Agreement concerning the International Carriage of Dangerous Goods by Road
DNEL =Derived-No Effect Level
EC_{50} = Median effective concentration
IMDG = International Maritime Dangerous Goods
IATA = International Air Transport Association
LC_{50} = Median lethal concentration
LD_{50} = Median lethal dose
NOEC = No-Observed Effect Concentration
PBT = Persistent Bioaccumulative Toxic
PNEC = Predicted No-Effect Concentration
RID = Regulations concerning the International Carriage of Dangerous Goods by Rail
vPvB = Very Persistent and Very Bioaccumulative

Advice on training / instruction:
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information

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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.

Changes since previous version:
12.

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