



## MATERIAL SAFETY DATA SHEET (MSDS)

### SECTION 1: Identification

#### 1.1 Product identifiers

**Product Name :** Chlorosulfonic acid  
**Cat No.:** AC304490000; AC304490010; AC304490025; AC304490250;  
AC304491000; AC304495000  
**CAS No. :** 7790-94-5

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

**Recommended uses :** Laboratory chemicals  
**Uses advised against:** Food, drug, pesticide or biocidal product use.

#### 1.3 Details of the supplier of the safety data sheet

**Company :** Krishna Solvechem Limited.  
B/503, Sahayog, S. V. Road,  
Kandivali (West), Mumbai – 400067. India.

**Telephone :** +91-22-6123 0222

**Email :** exports@kscl.co.in

#### 1.4 Emergency telephone number

**Emergency Phone :** +91-8657457330

### SECTION 2: Hazards identification

#### 2.1 Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin Corrosion/Irritation	(Category 1 A)
Serious Eye Damage/Eye Irritation	(Category 1)
Specific target organ toxicity (single exposure)	(Category 3)
Target Organs - Respiratory system.	

#### 2.2 Label elements

**Pictogram :**



**Signal word** Danger

**Hazard statement (s)** Causes severe skin burns and eye damage



<b>Precautionary statement (s)</b>	May cause respiratory irritation
<b>Prevention</b>	Wash face, hands and any exposed skin thoroughly after handling Wear protective gloves/protective clothing/eye protection/face protection Avoid breathing dust/fume/gas/mist/vapors/spray Use only outdoors or in a well-ventilated area
	<b>Inhalation :</b> IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing Call a POISON CENTER or doctor/physician if you feel unwell
	<b>IF ON SKIN (or hair):</b> If skin irritation occurs: Get medical advice/attention IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower Wash contaminated clothing before reuse
	<b>Eyes:</b> IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing If eye irritation persists: Get medical advice/attention
	<b>Ingestion:</b> IF SWALLOWED: Rinse mouth. DO NOT induce vomiting
	<b>Storage:</b> Store locked up Store in a well-ventilated place. Keep container tightly closed
	<b>Disposal:</b> Dispose of contents/container to an approved waste disposal plant
<b>Hazards not otherwise classified (HNOC)</b>	None identified



### SECTION 3: Composition / information on ingredients

#### 3.1

Component	CAS-No	Weight %
1-Bromo-2-methylpropane (By GC)	78-77-3	98% Minimum

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

<b>General Advice:</b>	If symptoms persist, call a physician.
<b>If inhalation :</b>	Remove from exposure, lie down. If breathing is difficult, give oxygen. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician immediately.
<b>In case of skin contact :</b>	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
<b>In case of eye contact :</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
<b>Ingestion :</b>	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician immediately. Clean mouth with water.
<b>4.2 Most important symptoms and effects :</b>	Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting
<b>4.3 Notes to Physician :</b>	Treat symptomatically

### SECTION 5: Firefighting effects

#### 5.1 Extinguishing media

<b>Suitable extinguishing media :</b>	Carbon dioxide (CO <sub>2</sub> ), dry chemical, alcohol-resistant foam.
<b>Unsuitable Extinguishing Media: :</b>	No information available
<b>5.2 Flash Point :</b>	No information available
<b>Method :</b>	No information available



<b>Autoignition Temperature:</b>	No information available
<b>Explosion Limits:</b>	
<b>Upper</b>	37.70%
<b>Lower</b>	3.30%
<b>Sensitivity to Mechanical Impact</b>	No information available
<b>Sensitivity to Static Discharge</b>	No information available
<b>Specific Hazards Arising from the Chemical :</b>	Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes. Reacts violently with water.
<b>Hazardous Combustion Products :</b>	Carbon monoxide (CO). Carbon dioxide (CO <sub>2</sub> ). Sulfur oxides

<b>5.4 Protective Equipment and Precautions for Firefighters:</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.			
<b><u>NFPA:</u></b>	<b>Health</b>	<b>Flammability</b>	<b>Instability</b>	<b>Physical hazards</b>
	4	0	2	W

## SECTION 6: Accidental release measures

<b>6.1 Personal precautions, protective equipment and emergency procedures</b>
Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Use personal protective equipment as required. Ensure adequate ventilation.
<b>6.2 Environmental precautions</b>
Should not be released into the environment. See section 12 for additional Ecological Information
<b>6.3 Methods and materials for containment and cleaning up</b>
Keep in suitable, closed containers for disposal. Soak up with inert absorbent material. Do not expose spill to water.

## SECTION 7: Handling and storage

<b>7.1 Precautions for safe handling</b>
Do not get in eyes, on skin, or on clothing. Do not ingest. If swallowed then seek immediate medical assistance. Use only under a chemical fume hood. Wear personal protective equipment/face protection. Do not breathe mist/vapors/spray. Do not allow contact with water.



## 7.2 Conditions for safe storage

Corrosives area. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from water or moist air. Incompatible Materials. Acids. Bases. Alcohols. Amines. Butyl rubber. Finely powdered metals.

## SECTION 8: Exposure controls/personal protection

### 8.1 Exposure Guidelines

This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

#### Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

### 8.2 Exposure controls

#### Personal protective equipment -

##### Eye / Face protection

Tight sealing safety goggles. Face protection shield.

##### Skin protection and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

##### Respiratory protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

##### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice..

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

a) Appearance	Form: Liquid
b) Odour	Pungent
c) Odour Threshold	No information available
d) pH	<1
e) Melting point / freezing point	-80 °C / -112 °F
f) Initial boiling point and	151 - 152 °C / 303.8 - 305.6 °F @ 760 mmHg



<b>boiling range</b>	
<b>g) Flash point</b>	No information available
<b>h) Evaporation rate</b>	No information available
<b>i) Flammability (solid, gas)</b>	Not applicable
<b>j) Upper/lower flammability or explosive limits</b>	37.70% 3.30%
<b>k) Vapour pressure</b>	No information available
<b>l) Vapour density</b>	4
<b>m) Specific Gravity</b>	1.750
<b>n) Solubility</b>	Reacts violently with water
<b>o) Partition coefficient: n octanol/water</b>	No data available
<b>p) Auto-ignition temperature</b>	No information available
<b>q) Decomposition temperature</b>	> 151°C
<b>r) Viscosity</b>	3 mPa.s at 95 °C
<b>s) Molecular formula</b>	H Cl O3 S
<b>t) Molecular Weight</b>	116.52

### SECTION 10: Stability and Reactivity

<b>10.1 Reactive Hazard :</b>	Yes
<b>10.2 Chemical stability :</b>	Moisture sensitive
<b>10.3 Possibility of hazardous reactions :</b>	None under normal processing. Reacts violently with water
<b>10.4 Conditions to avoid :</b>	Excess heat. Exposure to moisture. Exposure to moist air or water. Incompatible products.
<b>10.5 Incompatible materials:</b>	Acids, Bases, Alcohols, Amines, Butyl rubber, Finely powdered metals
<b>10.6 Hazardous decomposition products :</b>	Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ), Sulfur oxides
<b>10.7 Hazardous Polymerization</b>	Hazardous polymerization does not occur



## SECTION 11: Toxicological information

### 11.1

#### Information on toxicological effects

##### Acute toxicity:

**Product Information:** No acute toxicity information is available for this product

##### **Component Information**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Chlorosulfonic acid	-	Not listed	LC50 = 0.0385 mg/L ( Rat ) 4 h

**Toxicologically Synergistic Products** No information available

#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Irritation :** No information available

**Sensitization:** No information available

**Carcinogenicity :** The table below indicates whether each agency has Any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Chlorosulfonic acid	7790-94-5	Not listed	Not listed	Not listed	Not listed	Not listed

**Mutagenic Effects:** No information available.

**Reproductive Effects:** No information available.

**Developmental Effects :** No information available.

**Teratogenicity:** No information available.

**STOT - single exposure :** Respiratory system

**STOT - repeated exposure:** None known

**Aspiration hazard :** No information available.

**Symptoms / effects, both acute and delayed:** Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

**Endocrine Disruptor Information :** No information available

**Other Adverse Effects :** See actual entry in RTECS for complete information



## SECTION 12: Ecological information

### 12.1

#### Ecotoxicity:

Do not empty into drains. Reacts with water so no ecotoxicity data for the substance is available.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Chlorosulfonic acid	Not listed	LC50 = 5740 mg/L 96h	Not listed	EC50 = 32 mg/L 48h

**12.2 Persistence and degradability:** Persistence is unlikely based on information Available.

**Bioaccumulation/  
Accumulation** No information available

**12.3 Mobility:** Is not likely mobile in the environment

## SECTION 13: Disposal considerations

**13.1 Waste treatment methods:** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## SECTION 14: Transport information

### 14.1 UN number :

DOT : UN1754                      TDG : UN1754  
IATA : UN1754                    IMDG : UN1754

### 14.2 UN proper shipping name

**DOT :** CHLOROSULFONIC ACID  
**TDG :** CHLOROSULFONIC ACID  
**IMDG :** CHLOROSULFONIC ACID  
**IATA :** CHLOROSULFONIC ACID

**14.3 Transport hazard class(es)**      DOT: 8                      TDG: 8                      IMDG: 8                      IATA: 8

**14.4 Packaging group:**                      DOT: I                      TDG: I                      IMDG: I                      IATA: I

## SECTION 15: Regulatory information

### 15.1 United states of America Inventory:

Component	CAS-No	TSCA	TSCA Inventory notification Active/Inactive	TSCA - EPA Regulatory Flags
Chlorosulfonic acid	7790-94-5	X	ACTIVE	-

**Legend:**





**TSCA - Toxic Substances Control Act, (40 CFR Part 710)**

X - Listed

'-' - Not Listed

**TSCA 12(b) - Notices of Export** Not applicable

**International Inventories:**

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (ECL).

Component	CAS-No	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Chloro sulfonic acid	7790-94-5	X	-	232-234-6	X	X	X	X	X	KE-05909

**U.S. Federal Regulations**

**SARA 313**

Not applicable

**SARA 311/312 Hazard Categories**

See section 2 for more information

**CWA (Clean Water Act)**

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Chlorosulfonic acid	X	1000 lb	-	-

**Clean Air Act**

Not applicable

**OSHA - Occupational Safety and Health Administration**

Not applicable

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Component	Hazardous Substances RQs	CERCLA EHS RQs
Chloro sulfonic acid	1000 lb	-

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

chemicals.

**15.2 U.S. State Right-to-Know Regulations:**

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Chlorosulfonic acid	X	X	X	-	X

**U.S. Department of Transportation**

Reportable Quantity (RQ): Y



DOT Marine Pollutant N  
 DOT Severe Marine Pollutant N

**U.S. Department of Homeland** - This product contains the following DHS Chemicals.

**Security**

Component	DHS Chemical Facility Anti-Terrorism Standard
Chlorosulfonic acid	APA

**Other International Regulations**

**Mexico – Grade** No information available

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Chloro sulfonic acid	7790-94-5	Listed	Not applicable	Not applicable	Not applicable

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Chloro sulfonic acid	7790-94-5	Not applicable	Not applicable	Not applicable	Not applicable

**SECTION 16: Other information**

**16.1 Prepared By:** Regulatory affairs  
 Krishna Solvechem Limited  
**Email:** exports@kscl.co.in  
**Creation Date:** 23-Mar-2012  
**Revision Date:** 20-july-2023  
**Print Date:** 20-july-2023  
**Revision Summary:** This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 C F R 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

**16.2 Disclaimer:**

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 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.