

Chlorosulfonyl Isocyanate 1189-71-5 MSDS

Section 1 - Chemical Product

MSDS Name: Chlorosulfonyl isocyanate 98+% Material Safety Data Sheet

Synonym: CSI; Sulfonyl chloride isocyanate; N-Carbonylsulfamoyl chloride; Carbonylsulfamoyl chloride; Sulfonyl chloride isocyanate

Section 2 - COMPOSITION, INFORMATION ON INGREDIENTS

CAS#	Chemical Name	content
1189-71-5	Chlorosulfonyl isocyanate	>98

Hazard Symbols: C

Risk Phrases: 14 20/21/22 34 42/43

Section 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Reacts violently with water. Harmful by inhalation, in contact with skin and if swallowed. Causes burns. May cause sensitization by inhalation and skin contact.

Potential Health Effects

Eye:

Causes eye burns. Lachrymator (substance which increases the flow of tears).

Skin:

Causes skin burns. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material.

May be harmful if absorbed through the skin.

Ingestion:

May cause severe and permanent damage to the digestive tract. Causes gastrointestinal tract burns.

May be harmful if swallowed.

Inhalation:

Causes chemical burns to the respiratory tract. May be harmful if inhaled.

Chronic:

Chronic overexposure to isocyanates has been reported to cause lung damage, including decreased lung function, which may be permanent.

Section 4 - FIRST AID MEASURES

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid immediately.

Skin:

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Get medical aid immediately. Wash clothing before reuse.

Ingestion:

Do not induce vomiting. Get medical aid immediately.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician:

Treat symptomatically and supportively.

Section 5 - FIRE FIGHTING MEASURES

General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Reaction with water may generate much heat which will increase the concentration of fumes in the air. Contact with metals may evolve flammable hydrogen gas. Avoid water contamination in closed containers or confined spaces because carbon dioxide (CO₂) is evolved.

Extinguishing Media:

DO NOT USE WATER! Use dry chemical, dry sand, or carbon dioxide.

Section 6 - ACCIDENTAL RELEASE MEASURES

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation. A vapor suppressing foam may be used to reduce vapors.

Do not get water on spilled substances or inside containers.

Section 7 - HANDLING and STORAGE

Handling:

Wash thoroughly after handling. Do not allow water to get into the container because of violent reaction. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Do not ingest or inhale. Use with adequate ventilation. Discard contaminated shoes.

Systems and equipment must be scrupulously dry. Cotton fabrics will char immediately on contact with chlorosulfonyl isocyanate and produce a dense smoke.

Storage:

Store in a tightly closed container. Keep refrigerated. (Store below 4°C/39°F.) Store protected from moisture. Store absolutely dry.

Section 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low. Use a corrosion-resistant

ventilation system.

Exposure Limits CAS# 1189-71-5: Personal Protective Equipment Eyes: Wear chemical splash goggles and face shield.

Skin:

Wear appropriate protective gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to prevent skin exposure.

Respirators:

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.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid

Color: clear colorless to slightly yellow

Odor: pungent odor

pH: Not available.

Vapor Pressure: 25.6 hPa @ 20 deg C

Viscosity: 0.996 mPa.s @ 20 deg C

Boiling Point: 106 deg C

Freezing/Melting Point: -44 deg C

Autoignition Temperature: Not available.

Flash Point: > 110 deg C (> 230.00 deg F)

Explosion Limits, lower: Not available.

Explosion Limits, upper: Not available.

Decomposition Temperature: > 300 deg C

Solubility in water: Reacts violently

Specific Gravity/Density: 1.626

Molecular Formula: CCINO3S

Molecular Weight: 141.53

Section 10 - STABILITY AND REACTIVITY

Chemical Stability:

Reacts with water. Fumes in moist air.

Conditions to Avoid:

Excess heat, exposure to moist air or water.

Incompatibilities with Other Materials:

Water, strong oxidizing agents, alcohols, amines.

Hazardous Decomposition Products:

Hydrogen chloride, nitrogen oxides, oxides of sulfur, carbon dioxide.

Hazardous Polymerization: Has not been reported.

Section 11 - TOXICOLOGICAL INFORMATION

RTECS#:

CAS# 1189-71-5 unlisted.

LD50/LC50:

Not available.

LD50 oral (rat): 640 mg/kg.

Carcinogenicity:

Chlorosulfonyl isocyanate - Not listed by ACGIH, IARC, or NTP.

Section 12 - ECOLOGICAL INFORMATION

Section 13 - DISPOSAL CONSIDERATIONS

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - TRANSPORT INFORMATION

IATA

Shipping Name: ISOCYANATES, TOXIC, N.O.S.*

Hazard Class: 6.1

UN Number: 2206

Packing Group: II

IMO

Shipping Name: ISOCYANATES, TOXIC, N.O.S.

Hazard Class: 6.1

UN Number: 2206

Packing Group: II

RID/ADR

Shipping Name: ISOCYANATES, TOXIC, N.O.S.

Hazard Class: 6.1

UN Number: 2206

Packing group: II

Section 15 - REGULATORY INFORMATION

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: C

Risk Phrases:

R 14 Reacts violently with water.

R 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

R 34 Causes burns.

R 42/43 May cause sensitization by inhalation and skin contact.

Safety Phrases:

S 8 Keep container dry.

S 23 Do not inhale gas/fumes/vapour/spray.

S 26 In case of contact with eyes, rinse immediately

with plenty of water and seek medical advice.

S 30 Never add water to this product.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 1189-71-5: No information available.

Canada

CAS# 1189-71-5 is listed on Canada's NDSL List.

CAS# 1189-71-5 is not listed on Canada's Ingredient Disclosure List.

US FEDERAL

TSCA

CAS# 1189-71-5 is listed on the TSCA inventory.

SECTION 16 - ADDITIONAL INFORMATION

N/A