





Material Safety Data Sheet

NFPA	HMIS	Personal Protective Equipment						
	<table><tr><td>Health Hazard</td><td>3</td></tr><tr><td>Fire Hazard</td><td>0</td></tr><tr><td>Reactivity</td><td>2</td></tr></table>	Health Hazard	3	Fire Hazard	0	Reactivity	2	 See Section 15.
Health Hazard	3							
Fire Hazard	0							
Reactivity	2							

Section 1. Chemical Product and Company Identification			Page Number: 1	
Common Name/ Trade Name		Trifluoromethanesulfonic acid	Catalog Number(s).	T2105
			CAS#	1493-13-6
Manufacturer		SPECTRUM CHEMICAL MFG. CORP. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	RTECS	Not available.
			TSCA	TSCA 8(b) inventory: No products were found.
Commercial Name(s)		Not available.	CI#	Not available.
Synonym		Not available.	<u>IN CASE OF EMERGENCY</u> <u>CHEMTREC (24hr) 800-424-9300</u> CALL (310) 516-8000	
Chemical Name				
Chemical Family		Not available.		
Chemical Formula		CHF3O3S		
Supplier		SPECTRUM CHEMICAL MFG. CORP. 14422 S. SAN PEDRO STREET GARDENA, CA 90248		

Section 2. Composition and Information on Ingredients					
		Exposure Limits			
Name	CAS #	TWA (mg/m ³)	STEL (mg/m ³)	CEIL (mg/m ³)	% by Weight
1) Trifluoromethanesulfonic acid	1493-13-6				100
Toxicological Data on Ingredients Trifluoromethanesulfonic acid LD50: Not available. LC50: Not available.					

Section 3. Hazards Identification	
Potential Acute Health Effects	Extremely hazardous in case of skin contact (irritant), of eye contact (irritant), of inhalation (lung irritant). Very hazardous in case of ingestion. Hazardous in case of skin contact (corrosive, permeator), . Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Continued on Next Page

Potential Chronic Health Effects	CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection.
---	--

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.
Skin Contact	If the chemical got onto the clothed portion of the body, remove the contaminated clothes as quickly as possible, protecting your own hands and body. Place the victim under a deluge shower. If the chemical got on the victim's exposed skin, such as the hands : Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.
Serious Skin Contact	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.
Inhalation	Allow the victim to rest in a well ventilated area. Seek immediate medical attention.
Serious Inhalation	Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.
Ingestion	Do not induce vomiting. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.
Serious Ingestion	Not available.

Section 5. Fire and Explosion Data

Flammability of the Product	Non-flammable.
Auto-Ignition Temperature	Not applicable.
Flash Points	Not applicable.
Flammable Limits	Not applicable.
Products of Combustion	Not available.
Fire Hazards in Presence of Various Substances	Not applicable.
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.
Fire Fighting Media and Instructions	Not applicable.
Special Remarks on Fire Hazards	Not available.
Special Remarks on Explosion Hazards	Not available.

Section 6. Accidental Release Measures

Small Spill	Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: Neutralize the residue with a dilute solution of sodium carbonate.
Large Spill	Corrosive liquid. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Neutralize the residue with a dilute solution of sodium carbonate.

Section 7. Handling and Storage

Precautions	Keep container dry. Do not breathe gas/fumes/ vapour/spray. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If you feel unwell, seek medical attention and show the label when possible. Avoid contact with skin and eyes. Keep away from incompatibles such as moisture.
Storage	Corrosive materials should be stored in a separate safety storage cabinet or room.

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.
Personal Protection	Face shield. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves. Boots.
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Exposure Limits	Not available.

Section 9. Physical and Chemical Properties

Physical state and appearance	Liquid.	Odor	Not available.
Molecular Weight	150.07 g/mole	Taste	Not available.
pH (1% soln/water)	1 [Acidic.]	Color	Yellow. (Light.)
Boiling Point	162°C (323.6°F)		
Melting Point	Not available.		
Critical Temperature	Not available.		
Specific Gravity	1.696 (Water = 1)		
Vapor Pressure	Not available.		
Vapor Density	5.2 (Air = 1)		
Volatility	Not available.		
Odor Threshold	Not available.		
Water/Oil Dist. Coeff.	Not available.		
Ionicity (in Water)	Not available.		
Dispersion Properties	See solubility in water.		
Solubility	Easily soluble in cold water.		

Section 10. Stability and Reactivity Data

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	Not available.
Incompatibility with various substances	Reactive with moisture.
Corrosivity	Slightly corrosive to corrosive in presence of glass.
Special Remarks on Reactivity	Not available.
Special Remarks on Corrosivity	Not available.
Polymerization	No.

Section 11. Toxicological Information

Routes of Entry	Dermal contact. Eye contact. Inhalation. Ingestion.
Toxicity to Animals	LD50: Not available. LC50: Not available.
Chronic Effects on Humans	Not available.
Other Toxic Effects on Humans	Extremely hazardous in case of skin contact (irritant), of inhalation (lung irritant). Very hazardous in case of ingestion. Hazardous in case of skin contact (corrosive, permeator), .
Special Remarks on Toxicity to Animals	Not available.
Special Remarks on Chronic Effects on Humans	Not available.
Special Remarks on other Toxic Effects on Humans	Not available.

Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Products of Biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation	The products of degradation are more toxic.
Special Remarks on the Products of Biodegradation	Not available.

Section 13. Disposal Considerations

Waste Disposal

Section 14. Transport Information**DOT Classification** CLASS 8: Corrosive liquid.**Identification** : Corrosive Liquid, n.o.s. (Trifluoromethanesulfonic acid) : UN1760 PG: III**Special Provisions for Transport** Not available.**DOT (Pictograms)****Section 15. Other Regulatory Information and Pictograms****Federal and State Regulations** Connecticut carcinogen reporting list.: Trifluoromethanesulfonic acid
TSCA 8(b) inventory: No products were found.**California Proposition 65 Warnings****Other Regulations** OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.**Other Classifications** **WHMIS (Canada)** CLASS E: Corrosive liquid.**DSCL (EEC)** R37/38- Irritating to respiratory system and skin.
R41- Risk of serious damage to eyes.**HMIS (U.S.A.)**

Health Hazard	3
Fire Hazard	0
Reactivity	2
Personal Protection	

National Fire Protection Association (U.S.A.)

Health	3	0	2	Flammability
		COR		Reactivity
				Specific hazard

WHMIS (Canada) (Pictograms)**DSCL (Europe) (Pictograms)****TDG (Canada) (Pictograms)**

Continued on Next Page

ADR (Europe)
(Pictograms)

Protective Equipment



Gloves.



Full suit.



Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.



Face shield.

Section 16. Other Information

MSDS Code 5465T

References Not available.

Other Special Considerations Not available.

Validated by Sonia Owen on 8/11/2006.

Verified by Sonia Owen.

Printed 9/13/2006.

CALL (310) 516-8000

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.