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CHEMICALS.

Reviewed on 07/30/2016

1 Identification

- · Product name
- · Trade name: Silver trifluoromethanesulfonate, 99% (Silver triflate)
- Item number: 47-2000
- · CAS Number:
- 2923-28-6
- *EC number:* 220-882-2
- Details of the supplier of the safety data sheet • Manufacturer/Supplier: Strem Chemicals, Inc.
- 7 Mulliken Way NEWBURYPORT, MA 01950 USA info@strem.com
- · Information department: Technical Department
- Emergency telephone number: EMERGENCY: CHEMTREC: + 1 (800) 424-9300 During normal opening times: +1 (978) 499-1600

2 Hazard(s) identification

· Classification of the substance or mixture

Skin Irrit. 2 H315 Causes skin irritation. Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

· Label elements

· GHS label elements

The substance is classified and labeled according to the Globally Harmonized System (GHS). • *Hazard pictograms*



· Signal word Warning

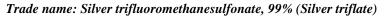
· Hazard-determini	ng components of labeling:
Silver triflate	
· Hazard statements	5
H315 Causes skin	irritation.
H319 Causes serie	pus eye irritation.
H335 May cause r	espiratory irritation.
· Precautionary stat	tements
P231	Handle under inert gas.
P305+P351+P336	8 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present
	and easy to do. Continue rinsing.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.

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P410	(Contd. of page 1) Protect from sunlight.
P422	Store contents under inert gas.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
· Classificatio	on system:
· NFPÅ ratin	gs (scale 0 - 4)
100	Health = 1 $Fire = 0$ $Reactivity = 0$
· HMIS-ratin	gs (scale 0 - 4)
HEALTH	$\begin{array}{l} 1 \\ 0 \\ Fire = 0 \end{array}$
0.1 1	

- Other hazards
- · Results of PBT and vPvB assessment
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- · Chemical characterization: Substances
- CAS No. Description 2923-28-6 Silver triflate
- · Identification number(s)
- EC number: 220-882-2

4 First-aid measures

- · Description of first aid measures
- After inhalation: In case of unconsciousness place patient stably in side position for transportation.
- After skin contact: Immediately wash with water and soap and rinse thoroughly.
- · After eye contact:
- Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- · After swallowing: If symptoms persist consult doctor.
- · Information for doctor:
- Most important symptoms and effects, both acute and delayed No further relevant information available.
- · Indication of any immediate medical attention and special treatment needed
- No further relevant information available.

5 Fire-fighting measures

- · Extinguishing media
- \cdot Suitable extinguishing agents:
- CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- Special hazards arising from the substance or mixture No further relevant information available.

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- · Advice for firefighters
- · Protective equipment: No special measures required.

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures Not required.

· Environmental precautions:

Do not allow product to reach sewage system or any water course.

- Inform respective authorities in case of seepage into water course or sewage system.
- Methods and material for containment and cleaning up:

Dispose contaminated material as waste according to item 13. Ensure adequate ventilation.

- **Reference** to other sections
- See Section 7 for information on safe handling.
- See Section 8 for information on personal protection equipment.
- See Section 13 for disposal information.

7 Handling and storage

· Handling:

- · Precautions for safe handling Open and handle receptacle with care.
- Information about protection against explosions and fires: No special measures required.
- · Conditions for safe storage, including any incompatibilities
- · Storage: Protect from sunlight.
- Requirements to be met by storerooms and receptacles: No special requirements.
- · Information about storage in one common storage facility: Not required.
- · Further information about storage conditions:
- Keep receptacle tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

· Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

- Additional information about design of technical systems: No further data; see item 7.
- · Control parameters

· Components with limit values that require monitoring at the workplace:

2923-28-6 Silver triflate

- PEL Long-term value: 0.01 mg/m³ as Ag REL Long-term value: 0.01 mg/m³ as Ag
- TLV Long-term value: 0.01 mg/m^3
 - as Ag

• Additional information: The lists that were valid during the creation were used as basis.

· Exposure controls

- · Personal protective equipment:
- General protective and hygienic measures: Keep away from foodstuffs, beverages and feed.

(Contd. on page 4)

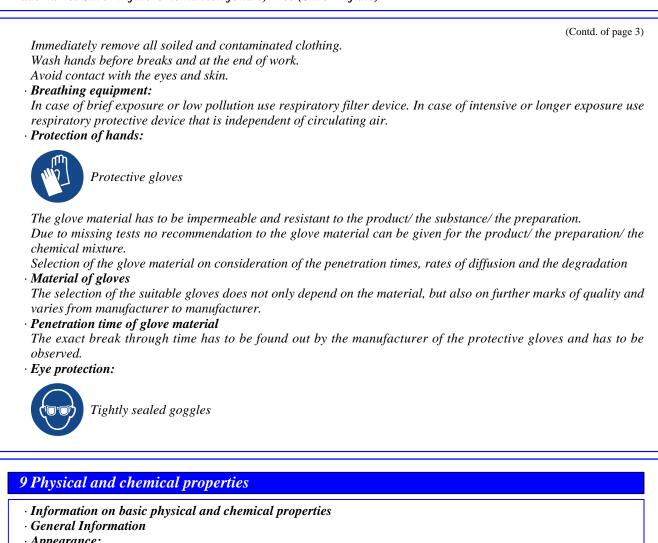


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· Appearance: Form:	Powder	
Color:	Whitish	
· Odor:	Odorless	
· Odor threshold:	Not determined.	
· pH-value:	Not applicable.	
• Change in condition Melting point/Melting range: Boiling point/Boiling range:	no data °C no data °C	
· Flash point:	Not applicable.	
· Flammability (solid, gaseous):	Not determined.	
· Ignition temperature:		
Decomposition temperature:	Not determined.	
· Auto igniting:	Not determined.	
· Danger of explosion:	Product does not present an explosion hazard.	
	(Conte	d. on page 5)

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Trade name: Silver trifluoromethanesulfonate, 99% (Silver triflate)

		(Contd. of page
Explosion limits:		
Lower:	Not determined.	
Upper:	Not determined.	
Vapor pressure:	no data hPa	
Density:	Not determined.	
Relative density	Not determined.	
Vapor density	Not applicable.	
Evaporation rate	Not applicable.	
Solubility in / Miscibility with		
Water:	Insoluble.	
Partition coefficient (n-octan	ol/water): Not determined.	
Viscosity:		
Dynamic:	Not applicable.	
Kinematic:	Not applicable.	
Solvent content:		
Organic solvents:	0.0 %	
VOC content:	0.0 g/l / 0.00 lb/gl	
Solids content:	100.0 %	
• Other information	No further relevant information available.	

10 Stability and reactivity

- · Reactivity No further relevant information available.
- · Chemical stability
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- · Possibility of hazardous reactions No dangerous reactions known.
- · Conditions to avoid No further relevant information available.
- · Incompatible materials: No further relevant information available.
- · Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

- · Information on toxicological effects
- · Acute toxicity:
- Primary irritant effect:
- on the skin: Irritant to skin and mucous membranes.
- on the eye: Irritating effect.
- Sensitization: No sensitizing effects known.
- · Additional toxicological information:

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)

Substance is not listed.

· NTP (National Toxicology Program)

Substance is not listed.

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· OSHA-Ca (Occupational Safety & Health Administration)

Substance is not listed.

12 Ecological information

- · Toxicity
- Aquatic toxicity: No further relevant information available.
- *Persistence and degradability* No further relevant information available.
- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- *Mobility in soil* No further relevant information available.
- · Additional ecological information:
- · General notes: Not known to be hazardous to water.
- · Results of PBT and vPvB assessment
- **PBT:** Not applicable.
- · **vPvB:** Not applicable.
- · Other adverse effects No further relevant information available.

13 Disposal considerations

· Waste treatment methods

• *Recommendation: Must not be disposed of together with household garbage. Do not allow product to reach sewage system.*

· Uncleaned packagings:

• *Recommendation: Disposal must be made according to official regulations.*

· UN-Number · DOT, ADN, IMDG, IATA	not regulated	
· UN proper shipping name · DOT, ADN, IMDG, IATA	not regulated	
· Transport hazard class(es)		
· DOT, ADN, IMDG, IATA · Class	not regulated	
· Packing group · DOT, IMDG, IATA	not regulated	
· Environmental hazards: · Marine pollutant:	No	
· Special precautions for user	Not applicable.	
• Transport in bulk according to Annex MARPOL73/78 and the IBC Code	II of Not applicable.	
· UN ''Model Regulation'':	not regulated	

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15 Regulatory information

 \cdot Safety, health and environmental regulations/legislation specific for the substance or mixture \cdot Sara

• Section 355 (extremely hazardous substances):

Substance is not listed.

• Section 313 (Specific toxic chemical listings):

Substance is listed.

• TSCA (Toxic Substances Control Act):

Substance is listed.

· Proposition 65

· Chemicals known to cause cancer:

Substance is not listed.

· Chemicals known to cause reproductive toxicity for females:

Substance is not listed.

· Chemicals known to cause reproductive toxicity for males:

Substance is not listed.

· Chemicals known to cause developmental toxicity:

Substance is not listed.

· Carcinogenic categories

· EPA (Environmental Protection Agency)

Substance is not listed.

· TLV (Threshold Limit Value established by ACGIH)

Substance is not listed.

 \cdot NIOSH-Ca (National Institute for Occupational Safety and Health)

Substance is not listed.

· GHS label elements

The substance is classified and labeled according to the Globally Harmonized System (GHS). • *Hazard pictograms*



· Signal word Warning

Hazard-determining components of labeling: Silver triflate
Hazard statements
H315 Causes skin irritation.
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P410	(Contd. of page	
P422	Protect from sunlight.	
	Store contents under inert gas.	
P501	Dispose of contents/container in accordance with local/regional/national/internation	
<i>c</i> 1 · · ·	regulations.	
Chemical sa	Chemical safety assessment: A Chemical Safety Assessment has not been carried out.	
Other info	ormation	
	ation is based on our present knowledge. However, this shall not constitute a guarantee for a duct features and shall not establish a legally valid contractual relationship.	
Department	issuing SDS: Technical Department.	
-	chnical Director	
Date of pren	paration / last revision 07/30/2016 / -	
	ns and acronyms:	
	européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the Internatio	
	ngerous Goods by Road)	
	tional Maritime Code for Dangerous Goods	
	rtment of Transportation	
	ional Air Transport Association	
	can Conference of Governmental Industrial Hygienists	
	pean Inventory of Existing Commercial Chemical Substances	
	Abstracts Service (division of the American Chemical Society)	
NFPA: Nationa	Il Fire Protection Association (USA)	
HMIS: Hazardo	ous Materials Identification System (USA)	
VOC: Volatile	Organic Compounds (USA, EU)	
PBT: Persistent	t, Bioaccumulative and Toxic	
	sistent and very Bioaccumulative	
	al Institute for Occupational Safety	
	tional Safety & Health	
TLV: Threshold		
	ole Exposure Limit	
	nded Exposure Limit	
	in corrosion/irritation, Hazard Category 2	
	erious eye damage/eye irritation, Hazard Category 2A	
	ecific target organ toxicity - Single exposure, Hazard Category 3	

