Safety Data Sheet

1. Identification of the substance/mixture and of the company/undertaking

Product identifier:
- Product name: Trifluoromethanesulfonic acid
- Product code (SDS NO): 8033E-1

Details of the supplier of the safety data sheet
- Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.
- Address: 3-1, Honmachibashi, Chuo-ku, Osaka 540-0029, JAPAN
- Division: Safety Management Dept. of Chemicals
- Telephone number: +81-6-6946-8061
- FAX: +81-6-6946-1607
- e-mail address: kagakuhinanzenkanri@kishida.co.jp

2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture
- HEALTH HAZARDS
  - Serious eye damage/eye irritation: Category 2
  - (Note) GHS classification without description: Not applicable/Out of classification/Not classifiable

Label elements

Signal word: Warning

HAZARD STATEMENT
- Causes serious eye irritation

PRECAUTIONARY STATEMENT
- Prevention
  - Wash contaminated parts thoroughly after handling.
  - Wear eye protection/face protection.
- Response
  - 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.

3. Composition/information on ingredients

Mixture/Substance selection:
- Substance
  - Ingredient name: Trifluoromethanesulfonic acid
  - Content(%): 99 (min)
  - Chemical formula: CF3SO3H
  - Chemicals No, Japan: 2-2809
  - CAS No.: 1493-13-6
  - MW: 150.08
  - ECNO: 216-087-5

Note: The figures shown above are not the specifications of the product.
4. First-aid measures
   Descriptions of first-aid measures
   IF INHALED
   Remove person to fresh air and keep comfortable for breathing.
   Call a POISON CENTER or doctor/physician if you feel unwell.
   IF ON SKIN (or hair)
   Take off immediately all contaminated clothing. Rinse skin with water/shower.
   If skin irritation or rash occurs: Get medical advice/attention.
   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.
   IF SWALLOWED
   Rinse mouth.
   Call a POISON CENTER or doctor/physician if you feel unwell.

5. Fire-fighting measures
   Extinguishing media
   Suitable extinguishing media
   Use appropriate extinguishing media suitable for surrounding facilities.
   Specific hazards arising from the substance or mixture
   Containers may explode when heated.
   Fire may produce irritating, corrosive and/or toxic gases.
   Advice for firefighters
   Specific fire-fighting measures
   Evacuate non-essential personnel to safe area.
   Special protective equipment and precautions for fire-fighters
   Wear fire/flame resistant/retardant clothing.
   Wear protective gloves/protective clothing/eye protection/face protection.
   Firefighters should wear self-contained breathing apparatus with full face peace operated positive pressure mode.

6. Accidental release measures
   Personnel precautions, protective equipment and emergency procedures
   Ventilate area until material pick up is complete.
   Wear proper protective equipment.
   Methods and materials for containment and cleaning up
   Absorb spill with inert material (dry sand, earth, et al), then place in a chemical waste container.
   Preventive measures for secondary accident
   Collect spillage.

7. Handling and storage
   Precautions for safe handling
   Preventive measures
   (Protective measures against fire and explosion)
   Keep away from heat/sparks/open flames/hot surfaces. ~ No smoking.
   Exhaust/ventilator
   Exhaust/ventilator should be available.
   Safety treatments
Avoid contact with skin.
Avoid contact with eyes.

Safety Measures/Incompatibility
Wear protective gloves, protective clothing or face protection. 
Wear eye protection/face protection. 
When using do not eat, drink or smoke. 

Conditions for safe storage, including any incompatibilities
Recommendation for storage
Keep container tightly closed.
Store in a cool, dry place. Do not store in direct sunlight.
keep under lock and key.

8. Exposure controls/personal protection
Exposure controls
Appropriate engineering controls
Do not use in areas without adequate ventilation. 
Eye wash station should be available. 
Washing facilities should be available. 

Individual protection measures
Respiratory protection
Wear respiratory protection. 
Hand protection
Wear protective gloves. 
Eye protection
Wear eye/face protection. 
Safety and Health measures
Wash thoroughly after handling.

9. Physical and Chemical Properties
Information on basic physical and chemical properties
Physical properties
 Appearance: Fuming liquid 
Color: Colorless~nearly colorless 
Odor: Pungent odor 
pH data N.A. 
Phase change temperature
Initial Boiling Point/Boiling point: 162°C 
Boiling range data N.A. 
Melting point/Freezing point data N.A. 
Decomposition temperature data N.A. 
Flash point data N.A. 
Auto-ignition temperature data N.A. 
Explosive properties data N.A. 
Vapor pressure: 686.75 Pa (35°C) 
Relative Vapor Density (Air=1): 5.20 
Specific gravity/Density: 1.69 
Solubility
Solubility in water: Soluble 
n–Octanol/water partition coefficient data N.A.
10. Stability and Reactivity

Reactivity
N.A.

Chemical stability
Hygroscopic (absorbs moisture from the air).

Possibility of hazardous reactions
Produce heat by reaction with strong strong base.

Conditions to avoid
Contact with incompatible materials.
Contact with fire source.

Incompatible materials
Bases

Hazardous decomposition products
Sulfur oxides, Fluorine

11. Toxicological Information

Information on toxicological effects
No Acute toxicity data available
Irritant properties
Serious eye damage /irritation

[GHS Cat. Japan, base data]
(Trifluoromethanesulfonic acid)
rabbit severe (Guide of poisonous and deleterious substances services (Jiji Press, 2001))

No Allergic and sensitizing effects data available
No Mutagenic effects data available
No Carcinogenic effects data available
No Teratogenic effects data available
No reproductive toxicity data available
No STOT—single/repeated exposure data available
No Aspiration hazard data available

12. Ecological Information

Ecotoxicity
No Aquatic toxicity data available
No Persistence and degradability data available
No Bioaccumulative potential data available
No Mobility in soil data available
Ozone depleting chemical data not available

13. Disposal considerations
Waste treatment methods
Dispose of contents/container in accordance with local/national regulation.

14. Transport Information
Not applicable to UN No.
IMDG Code (International Maritime Dangerous Goods Regulations)
Not applicable to IMDG Code
IATA Dangerous Goods Regulations
Not applicable to IATA Dangerous Goods Regulations
Environmental hazards
MARPOL Annex III – Prevention of pollution by harmful substances
Marine pollutants (yes/no) : no

15. Regulatory Information
Safety, health and environmental regulations/legislation specific for the substance or mixture
US major regulations
TSCA
Trifluoromethanesulfonic acid
Other regulatory information
Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

16. Other information
GHS classification and labelling
Eye Irrit. 2: H319 Causes serious eye irritation
Reference Book
Globally Harmonized System of classification and labelling of chemicals, (5th ed., 2013), UN Recommendations on the TRANSPORT OF DANGEROUS GOODS 20th edit., 2017 UN Classification, labelling and packaging of substances and mixtures (table3-1 ECNO6182012)
2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
2018 TLVs and BEIs. (ACGIH)
http://monographs.iarc.fr/ENG/Classification/index.php
Supplier’s data/information
General Disclaimer
This information contained in this data sheet represents the best information currently available to us. However, no warranty is made with respect to its completeness and we assume no liability resulting from its use. It are advised to make their own tests to determinate the safety and suitability of each such product or combination for their own purposes.
The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products’ properties.
The GHS classification data given here is based on current Japan official data (NITE published in 2017).