

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 05/15/2009

Reviewed on 05/15/2009

1 Identification of substance:**Product details:****Product name:** Acetic acid, glacial**Stock number:** 38739**Manufacturer/Supplier:**

Alfa Aesar, A Johnson Matthey Company
 Johnson Matthey Catalog Company, Inc.
 30 Bond Street
 Ward Hill, MA 01835-8099
 Emergency Phone: (978) 521-6300
 CHEMTREC: (800) 424-9300
 Web Site: www.alfa.com

Information Department: Health, Safety and Environmental Department**Emergency information:**

During normal hours the Health, Safety and Environmental Department. After normal hours call Chemtrec at (800) 424-9300.

2 Composition/Data on components:**Chemical characterization:****Description: (CAS#)**

Acetic acid (CAS# 64-19-7), 100%

Identification number(s):**EINECS Number:** 200-580-7**Index number:** 607-002-00-6**3 Hazards identification****Hazard description:**

C Corrosive

Information pertaining to particular dangers for man and environment

R 10 Flammable.

R 35 Causes severe burns.

Classification system**HMIS ratings (scale 0-4)****(Hazardous Materials Identification System)**

HEALTH	2
FIRE	2
REACTIVITY	1

Health (acute effects) = 2

Flammability = 2

Reactivity = 1

GHS label elements**Danger**

3.2/1A - Causes severe skin burns and eye damage.

**Warning**

2.6/3 - Flammable liquid and vapour.

Prevention:

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/ equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wash thoroughly after handling.

Wear protective gloves/protective clothing/eye protection/face protection.

Response:

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

(Contd. on page 2)

USA

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 05/15/2009

Reviewed on 05/15/2009

Product name: Acetic acid, glacial

(Contd. of page 1)

IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 Immediately call a POISON CENTER or doctor/physician.
 Specific treatment (see label).
 Wash contaminated clothing before reuse.
 In case of fire: Use for extinction: CO₂, powder or water spray.

Storage:

Store in a well-ventilated place. Keep cool.
 Store locked up.

Disposal:

Dispose of contents/container in accordance with local/regional/national/international regulations.

4 First aid measures

General information Immediately remove any clothing soiled by the product.

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm.
 Seek immediate medical advice.

After skin contact

Immediately wash with water and soap and rinse thoroughly.
 Seek immediate medical advice.

After eye contact

Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing Seek immediate medical advice.

5 Fire fighting measures**Suitable extinguishing agents**

Carbon dioxide
 Fire-extinguishing powder
 Foam

Special hazards caused by the material, its products of combustion or resulting gases:

In case of fire, the following can be released:

Carbon monoxide (CO)

Protective equipment:

Wear self-contained respirator.
 Wear fully protective impervious suit.

6 Accidental release measures**Person-related safety precautions:**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Keep away from ignition sources

Measures for environmental protection:

Do not allow material to be released to the environment without proper governmental permits.

Measures for cleaning/collecting:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Use neutralizing agent.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Keep away from ignition sources.

Additional information:

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****Information for safe handling:**

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

Prevent formation of aerosols.

Information about protection against explosions and fires:

Keep ignition sources away.

Protect against electrostatic charges.

(Contd. on page 3)

USA

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 05/15/2009

Reviewed on 05/15/2009

Product name: Acetic acid, glacial

(Contd. of page 2)

Fumes can combine with air to form an explosive mixture.

Storage**Requirements to be met by storerooms and receptacles:** No special requirements.**Information about storage in one common storage facility:**

Do not store together with oxidizing and acidic materials.

Do not store together with alkalies (caustic solutions).

Further information about storage conditions:

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

8 Exposure controls and personal protection**Additional information about design of technical systems:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Components with limit values that require monitoring at the workplace:

Acetic acid

	ppm
ACGIH TLV	10; 15-STEL
Austria MAK	10
Belgium TWA	10; 15-STEL
Denmark TWA	10
Finland TWA	10; 15-STEL (skin)
France VLE	10
Germany MAK	10
Hungary TWA	10 mg/m ³ ; 20 mg/m ³ -STEL
Japan OEL	10
Korea TLV	10; 15-STEL
Netherlands MAC-TGG	25 mg/m ³
Norway TWA	10
Poland TWA	5 mg/m ³ ; 35 mg/m ³ -STEL
Russia TWA	10; 5 mg/m ³ -STEL (skin)
Sweden NGV	5; 10-KTV
Switzerland TWA	10; 20-KZG-W
United Kingdom TWA	10; 15-STEL
Russia	10-STEL
Denmark	10-STEL
Finland	10-STEL
Hungary	10 mg/m ³ -STEL
Poland TWA	5 mg/m ³
Sweden	10-STEL
USA PEL	10

Additional information: No data**Personal protective equipment****General protective and hygienic measures**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Breathing equipment: Use suitable respirator when high concentrations are present.**Protection of hands:** Impervious gloves**Eye protection:**

Safety glasses

Tightly sealed goggles

Full face protection

Body protection: Protective work clothing.**9 Physical and chemical properties:****General Information**

Form:	Liquid
Color:	Colorless
Odor:	Pungent, makes eyes water

Change in condition

Melting point/Melting range:	16.6°C (62°F)
Boiling point/Boiling range:	118.1°C (245°F)

(Contd. on page 4)

-USA-

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 05/15/2009

Reviewed on 05/15/2009

Product name: Acetic acid, glacial

(Contd. of page 3)

Sublimation temperature / start:	Not determined
Flash point:	40°C (104°F)
Ignition temperature:	426.6°C (800°F)
Decomposition temperature:	Not determined
Explosion limits:	
Lower:	5.4 Vol %
Upper:	16.0 Vol %
Vapor pressure at 20°C (68°F):	15.2 hPa (11 mm Hg)
Density at 20°C (68°F):	1.049 g/cm ³
Solubility in / Miscibility with	
Water:	Fully miscible

10 Stability and reactivity**Thermal decomposition / conditions to be avoided:**

Decomposition will not occur if used and stored according to specifications.

Materials to be avoided:

Acids

Bases

Oxidizing agents

Amines

Alcohols

Metal powders

Water/moisture

Dangerous reactions No dangerous reactions known**Dangerous products of decomposition:** Carbon monoxide and carbon dioxide**11 Toxicological information****Acute toxicity:****LD/LC50 values that are relevant for classification:**

Oral	LD50	3310 mg/kg (rat)
Inhalative	LC50/1H	5620 ppm/1H (mouse)
Irritation of skin	mild	50 mg/24H (human)
		50 mg/24H (rabbit)
	severe	525 mg (rabbit)

Primary irritant effect:**on the skin:**

Corrosive effect on skin and mucous membranes.

Irritant to skin and mucous membranes.

on the eye:

Strong corrosive effect.

Irritating effect.

Sensitization: No sensitizing effects known.**Other information (about experimental toxicology):**

Mutagenic effects have been observed on tests with laboratory animals.

Reproductive effects have been observed on tests with laboratory animals.

Subacute to chronic toxicity:

Acetic acid is corrosive and causes burns, lachrymation and conjunctivitis. It may cause skin ulcers and dermatitis. Inhalation causes damage to the lining of the nose, throat and lungs. Ingestion may cause severe injury leading to death. Severity of symptoms is a function of concentration.

Additional toxicological information:

Swallowing will lead to a strong corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

12 Ecological information:**General notes:**

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

(Contd. on page 5)

USA

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 05/15/2009

Reviewed on 05/15/2009

Product name: Acetic acid, glacial

(Contd. of page 4)

Do not allow material to be released to the environment without proper governmental permits.

13 Disposal considerations**Product:****Recommendation** Consult state, local or national regulations to ensure proper disposal.**Uncleaned packagings:****Recommendation:** Disposal must be made according to official regulations.**Recommended cleansing agent:** Water, if necessary with cleansing agents.**14 Transport information****DOT regulations:**

Hazard class: 8
Identification number: UN2789
Packing group: II
Proper shipping name (technical name): ACETIC ACID, GLACIAL
Label: 8+3

Land transport ADR/RID (cross-border)

ADR/RID class: 8 (CF1) Corrosive substances
Danger code (Kemler): 83
UN-Number: 2789
Packaging group: II
Description of goods: 2789 ACETIC ACID, GLACIAL

Maritime transport IMDG:

IMDG Class: 8
UN Number: 2789
Label: 8+3
Packaging group: II
Proper shipping name: ACETIC ACID, GLACIAL

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: 8
UN/ID Number: 2789
Label: 8+3
Packaging group: II
Proper shipping name: ACETIC ACID, GLACIAL

UN "Model Regulation": UN2789, ACETIC ACID, GLACIAL, 8 (3), II

15 Regulations**Product related hazard informations:****Hazard symbols:**

C Corrosive

Risk phrases:

10 Flammable.

(Contd. on page 6)

USA

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 05/15/2009

Reviewed on 05/15/2009

Product name: Acetic acid, glacial

(Contd. of page 5)

35 Causes severe burns.

Safety phrases:

23 Do not breathe gas/fumes/vapour/spray.

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

45 In case of accident or if you feel unwell, seek medical advice immediately.

National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

All components of this product are listed on the Canadian Domestic Substances List (DSL).

Information about limitation of use: For use only by technically qualified individuals.**16 Other information:**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing MSDS: Health, Safety and Environmental Department.**Contact:** Zachariah Holt**Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

USA