

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 06/11/2009

Reviewed on 06/11/2009

1 Identification of substance:**Product details:****Product name:** Chloroacetic acid**Stock number:**

A11482

L12661

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#)**

Chloroacetic acid (CAS# 79-11-8): 100%

Identification number(s):**EINECS Number:** 201-178-4**Index number:** 607-003-00-1**3 Hazards identification****Hazard description:**

T Toxic

N Dangerous for the environment

Information pertaining to particular dangers for man and environment

R 25 Toxic if swallowed.

R 34 Causes burns.

R 50 Very toxic to aquatic organisms.

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

HEALTH	3
FIRE	1
REACTIVITY	1

Health (acute effects) = 3

Flammability = 1

Reactivity = 1

GHS label elements**Danger**

3.1/2 - Fatal if swallowed.

**Danger**

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

**Warning**

4.1/1 - Very toxic to aquatic life.

Prevention:

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

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Avoid release to the environment.

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

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Response:

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

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.

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).

Rinse mouth.

Wash contaminated clothing before reuse.

Collect spillage.

Storage:

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.

In case of irregular breathing or respiratory arrest provide artificial respiration.

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

Do not induce vomiting; immediately call for medical help.

Seek immediate medical advice.

5 Fire fighting measures**Suitable extinguishing agents**

Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

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

In case of fire, the following can be released:

Hydrogen chloride (HCl)

Carbon monoxide and carbon dioxide

Phosgene gas

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

Measures for environmental protection:

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

Measures for cleaning/collecting:

Use neutralizing agent.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

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.

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Ensure good ventilation at the workplace.

Information about protection against explosions and fires: No special measures required.**Storage****Requirements to be met by storerooms and receptacles:** No special requirements.**Information about storage in one common storage facility:**

Store away from oxidizing agents.

Store away from reducing agents.

Store away from strong bases.

Store away from water/moisture.

Further information about storage conditions:

Protect from humidity and water.

This product is hygroscopic.

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:

Chloroacetic acid

	ppm
Finland	1-Ceiling (skin)
Ireland TWA	0.3 (skin)
Netherlands TWA	1 (skin)
Poland TWA	2 mg/m3; 4 mg/m3-STEEL
Russia TWA	1 mg/m3-STEEL
Sweden TWA	1; 2-STEEL (skin)
United Kingdom TWA	0.3 (skin)

Components with limit values that require monitoring at the workplace:**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:	Crystalline
Color:	Colorless Yellow
Odor:	Odorless

Change in condition

Melting point/Melting range:	62-64°C (144-147°F)
Boiling point/Boiling range:	189°C (372°F)
Sublimation temperature / start:	Not determined

Flash point: 126°C (259°F)**Ignition temperature:** Not determined**Decomposition temperature:** Not determined**Danger of explosion:** Product does not present an explosion hazard.**Explosion limits:****Lower:** Not determined

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Upper:	Not determined
Vapor pressure:	Not determined
Density at 20°C (68°F):	1.58 g/cm ³
Solubility in / Miscibility with Water:	Soluble

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:

Oxidizing agents

Reducing agents

Bases

Water/moisture

Dangerous reactions No dangerous reactions known**Dangerous products of decomposition:**

Hydrogen chloride (HCl)

Carbon monoxide and carbon dioxide

Phosgene

11 Toxicological information**Acute toxicity:****LD/LC50 values that are relevant for classification:**

Oral	LD50	55 mg/kg (rat)
Inhalative	LC50	180 mg/m ³ (rat)

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.

Lachrymatory effect.

Irritating effect.

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

Mutagenic effects have been observed on tests with laboratory animals.

Tumorigenic effects have been observed on tests with laboratory animals.

Subacute to chronic toxicity:**Subacute to chronic toxicity:**

The Registry of Toxic Effects of Chemical Substances (RTECS) reports the following effects in laboratory animals:

Behavioral - ataxia.

Blood - changes in erythrocyte (RBC) count.

Blood - pigmented or nucleated red blood cells.

Blood - lymphoma, including Hodgkin's disease.

Cardiac - other changes.

Kidney, Ureter, Bladder - other changes.

Liver - other changes.

Liver - changes in liver weight.

Liver - tumors.

Lungs, Thorax, or Respiration - tumors.

Related to Chronic Data - death.

Sense Organs and Special Senses (Eye) - lacrimation.

Tumorigenic - active as anti-cancer agent.

Tumorigenic - tumors at site of application.

Tumorigenic - equivocal tumorigenic agent by RTECS criteria.

Subacute to chronic toxicity:

Corrosive materials are acutely destructive to the respiratory tract, eyes, skin and digestive tract. Eye contact may result in permanent damage and complete vision loss.

Inhalation may result in respiratory effects such as inflammation, edema, and chemical pneumonitis. May cause coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting.

Ingestion may cause damage to the mouth, throat and esophagus. May cause skin burns or irritation depending on the severity of the exposure.

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.

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

The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for components in this product.

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

12 Ecological information:**Ecotoxicological effects:**

Remark: Very toxic for fish

General notes:

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

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

Very toxic for aquatic organisms

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: 6.1
Identification number: UN1751
Packing group: II
Hazardous substance: 100 lbs, 45.4 kg
Proper shipping name (technical name): CHLOROACETIC ACID, SOLID
Label: 6.1+8

Land transport ADR/RID (cross-border)

ADR/RID class: 6.1 (TC2) Toxic substances
Danger code (Kemler): 68
UN-Number: 1751
Packaging group: II
Description of goods: 1751 CHLOROACETIC ACID, SOLID

Maritime transport IMDG:

IMDG Class: 6.1
UN Number: 1751
Label: 6.1+8
Packaging group: II

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Proper shipping name: CHLOROACETIC ACID, SOLID**Air transport ICAO-TI and IATA-DGR:**

ICAO/IATA Class:	6.1
UN/ID Number:	1751
Label	6.1+8
Packaging group:	II
Proper shipping name:	CHLOROACETIC ACID, SOLID

UN "Model Regulation": UN1751, CHLOROACETIC ACID, SOLID, 6.1 (8), II**Environmental hazards:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID**15 Regulations****Product related hazard informations:****Hazard symbols:**

T Toxic

N Dangerous for the environment

Risk phrases:

25 Toxic if swallowed.

34 Causes burns.

50 Very toxic to aquatic organisms.

Safety phrases:

23 Do not breathe fumes

37 Wear suitable gloves.

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

61 Avoid release to the environment. Refer to special instructions/Safety data sheets

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.

This product is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.

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

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