

Safety Data Sheet

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

Product identifier:

Product name: Chloroacetic acid

Reference number(SDS): 28220jis_J_E2-2

Product type:

Reagent

Details of the supplier of the safety data sheet

Manufacturer/Supplier: JUNSEI CHEMICAL CO., LTD.

Address: 1-6, Ohmano-cho, Koshigaya-shi, Saitama 343-0844, Japan

Division: Quality Assurance Department

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2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

HEALTH HAZARDS

Acute toxicity (Oral): Category 3

Acute toxicity (Dermal): Category 2

Acute toxicity (Inhalation): Category 2

Skin corrosion/irritation: Category 1A

Serious eye damage/eye irritation: Category 1

Specific target organ toxicity – single exposure: Category 1 (nervous system, respiratory system, cardiovascular system, blood system, liver, kidney)

Specific target organ toxicity – repeated exposure: Category 2 (heart, liver, kidney)

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment (Acute): Category 1

Hazardous to the aquatic environment (Long-term): Category 1

(Note) GHS classification without description: Not classified/Classification not possible

Label elements



Signal word: Danger

HAZARD STATEMENT

H301-Toxic if swallowed

H310-Fatal in contact with skin

H330-Fatal if inhaled

H314-Causes severe skin burns and eye damage

H370-Causes damage to organs

H373-May cause damage to organs through prolonged or repeated exposure

H400-Very toxic to aquatic life

H410-Very toxic to aquatic life with long lasting effects

PRECAUTIONARY STATEMENT**Prevention**

- Avoid release to the environment.
- Do not breathe dust/mist.
- In case of inadequate ventilation wear respiratory protection.
- Use only outdoors or in a well-ventilated area.
- Do not get in eyes, on skin, or on clothing.
- Wash contaminated parts thoroughly after handling.
- Wear protective gloves or protective clothing.
- Wear eye protection/face protection.
- Do not eat, drink or smoke when using this product.

Response

- Collect spillage.
- Get medical advice/attention if you feel unwell.
- Immediately call a POISON CENTER/doctor/physician.
- IF exposed or concerned: Call a POISON CENTER/doctor/physician.
- IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- IF ON SKIN: Wash with plenty of soap and water.
- IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Take off immediately all contaminated clothing and wash it before reuse.
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician.
- IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Storage

- Store in a well-ventilated place. Keep container tightly closed.
- Store locked up.

Disposal

- Dispose of contents/container in accordance with local/national regulation.

3. Composition/information on ingredients**Mixture/Substance selection:****Substance****Common name, synonyms: Monochloroacetic acid****Ingredient name: Chloroacetic acid****Content (%): 98.0 <****Chemical formula: C₂H₃ClO₂****Chemicals No, Japan: 2-1145****CAS No.: 79-11-8****MW: 94.50****ECNO: 201-178-4****Note : The figures shown above are not the specifications of the product.**

4. First-aid measures**Descriptions of first-aid measures****General measures**

- Get medical advice/attention if you feel unwell.
- Immediately call a POISON CENTER/doctor/physician.
- Keep victim warm and quiet.
- Call emergency medical service.
- Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other

proper respiratory medical device.

Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.

Give artificial respiration if victim is not breathing.

Administer oxygen if breathing is difficult.

Call a POISON CENTER/doctor/physician if you feel unwell.

IF ON SKIN (or hair)

Take off immediately all contaminated clothing. Rinse skin with water or shower.

Wash with plenty of soap and water.

If skin irritation or rash occurs: Get medical advice/attention.

Remove and isolate contaminated clothing and shoes.

For minor skin contact, avoid spreading material on unaffected skin.

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. Do NOT induce vomiting.

Immediately call a POISON CENTER/doctor/physician.

Call a POISON CENTER/doctor/physician if you feel unwell.

Most important symptoms and effects, both acute and delayed

(Symptoms when inhalation or ingestion)

Sore throat. Cough. Shortness of breath. Burning sensation behind the breastbone. Burns in mouth and throat. Abdominal pain. Vomiting. Diarrhoea. Convulsions. Shock or collapse. Unconsciousness.

(Symptoms when skin and/or eye contact)

Conjunctival redness of the eyes. Redness of the skin. Pain. Severe burns.

※May be absorbed into the skin.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

In case of fire, use water mist, alcohol-resistant foam, dry powder, CO2 to extinguish.

Unsuitable extinguishing media

Unsuitable extinguishing media data is not available.

Specific hazards arising from the substance or mixture

Containers may explode when heated.

Fire may produce irritating, corrosive and/or toxic gases.

Runoff from fire control or dilution water may cause pollution.

Advice for firefighters

Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

Cool container with water spray.

Special protective equipment and precautions for fire-fighters

Wear fire resistant or flame retardant clothing.

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

Firefighters should wear self-contained breathing apparatus with full face piece operated positive pressure mode.

6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Keep unauthorized personnel away.

Ventilate area until material pick up is complete.

Wear proper protective equipment.

PUBLIC SAFETY: Ventilate closed spaces before entering.

EVACUATION : Spill: See the Table of Initial Isolation and Protective Action Distances for highlighted substances. For non-highlighted substances, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

Environmental precautions

Avoid release to headsprings, rivers, lakes, ocean and groundwater.

Fire or Explosion : Runoff may pollute waterways.

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.

If appropriate, moisten first to prevent dusting. Carefully collect remainder.

Sweep spilled substance into covered containers.

Preventive measures for secondary accident

Collect spillage.

Stop leak if you can do it without risk.

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).

Prevent entry into waterways, sewers, basements or confined areas.

Keep out of low areas.

7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

Do not breathe dust/mist.

(Protective measures against fire and explosion)

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

Safety Measures

Use only outdoors or in a well-ventilated area.

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

Use personal protective equipment as required.

When using do not eat, drink or smoke.

Any incompatibilities

Bases, Oxidizing agents, Reducing agents should not be mixed with the chemicals.

Advice on general occupational hygiene

Do not get in eyes, on skin, or on clothing.

Wash contaminated parts thoroughly after handling.

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

Take off immediately all contaminated clothing and wash it before reuse.

Storage

Conditions for safe storage

Store in a well-ventilated place. Keep container tightly closed.

Keep cool. Protect from sunlight.

Store in accordance with local/national regulation.

Store locked up.

Container and packaging materials for safe handling data is not available.

Specific end use(s)

See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

8. Exposure controls/personal protection

Control parameters

Control value in MHLW is not available.

Adopted value

Adopted value in JSOH is not available.

ACGIH(2006) TWA: 0.5ppm(IFV) (URT irr)

Notation···Skin

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.

Wear positive pressure self-contained breathing apparatus (SCBA).

Hand protection

Wear protective gloves. Recommended material(s): neoprene, butyl rubber, viton, PVC

Consult with your glove and/or personnel equipment manufacturer for selection of appropriate compatible materials.

Eye protection

Wear chemical safety goggle.

Wear eye/face protection.

Skin and body protection

Wear impervious clothing and boots in case of repeated or prolonged treatment.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Crystals, powder or flakes

Color: Colorless~White

Odor: Irritant odor

Odor threshold: 0.01 ppm; 0.042 mg/m³

Melting point/Freezing point: 60.0~65.0°C

Boiling point or initial boiling point: 189°C

Boiling range data is not available.

Flammability (gases, liquids and solids): Ignitable

Lower and upper explosion limit/flammability limit:

Lower explosion limit: 8 vol %

Flash point: (C.C.) 126°C

Auto-ignition temperature: 470°C

Decomposition temperature: >250°C

Self-Accelerating Decomposition Temperature/SADT data is not available.

pH: <1 (800g/L, 20°C)

Dynamic viscosity: 1.29mPas(100°C)

Kinematic viscosity data is not available.

Solubility:

Solubility in water: 858g/liter(25°C)

Solubility in solvent: Freely soluble in ethanol (99.5) and diethyl ether.

n-Octanol/water partition coefficient: log Pow0.34

Vapor pressure: 8.68 Pa (25 C)

VOC data is not available.

Evaporation rate data is not available.

Density and/or relative density: 1.58g/cm³(20°C)

Relative vapor density (Air=1): 3.26

Relative density of the Vapor/air – mixture at 20°C (Air = 1) data is not available.

Critical temperature: ca. 413°C

Particle characteristics data is not available.

10. Stability and Reactivity**Reactivity**

Hazardous polymerization is not expected to occur under normal temperature and pressure.

Chemical stability

Stable under normal storage/handling conditions.

Hygroscopic and corrosive.

Possibility of hazardous reactions

The vapour is heavier than air.

Decomposes on burning. This produces toxic fumes.

The solution in water attacks metals. This produces a combustible/explosive gas.

Reacts with bases, oxidizing substances and reducing agents. This produces toxic and flammable gases. This generates toxic, fire and explosion hazard.

Attacks some forms of plastic, some forms of rubber (e.g. nitrile rubber) and coatings.

Conditions to avoid

Contact with incompatible materials.

Open flames. Heat. Moisture.

Incompatible materials

Bases, Oxidizing agents, Reducing agents

Hazardous decomposition products

Carbon oxides, Hydrogen chloride, Phosgene, Hydrogen gas.

11. Toxicological Information**Information on toxicological effects****Acute toxicity****Acute toxicity (Oral)**

[GHS Cat. Japan, base data]

rat LD50=55~200mg/kg (ECETOC TR081, 2001)

Acute toxicity (Dermal)

[GHS Cat. Japan, base data]

rat LD50=145mg/kg (ACGIH, 2006)

Acute toxicity (Inhalation)

[GHS Cat. Japan, base data]

mist: rat LC50=0.18mg/L/4hr (NITE primary risk assessment, 2008)

Irritant properties**Skin corrosion/irritation**

[GHS Cat. Japan, base data]

rat/mouse : corrosive (EU-RAR, 2005)

Serious eye damage/irritation

[GHS Cat. Japan, base data]

rabbit : corrosive (EU-RAR, 2005)

Allergenic and sensitizing effects data is not available.

Germ cell mutagenicity

Reverse-mutation assay in bacteria (Ames test) : Negative

(MHLW in Japan__Mutagenicity Test Results for Chemical Substances)

Carcinogenicity

ACGIH-A4(2006) : Not Classifiable as a Human Carcinogen

Reproductive toxicity data is not available.

STOT

STOT-single exposure

[cat.1]

[GHS Cat. Japan, base data]

nervous system; respiratory system; central nervous system; blood system; liver; kidney (ACGIH 7th, 2006)

STOT-repeated exposure

[cat.2]

[GHS Cat. Japan, base data]

heart; liver; kidney (EU-RAR, 2005)

Aspiration hazard data is not available.

12. Ecological Information

Ecotoxicity

Aquatic toxicity

H400-Very toxic to aquatic life

H410-Very toxic to aquatic life with long lasting effects

Hazardous to the aquatic environment (Acute)

[GHS Cat. Japan, base data]

Algae (Scenedesmus) ErC50=0.033mg/L/72hr (NITE primary risk assessment, 2008)

Hazardous to the aquatic environment (Long-term)

[GHS Cat. Japan, base data]

Algae (Pseudokirchneriella subcapitata) NOEC <0.005mg/L/72hr (NITE primary risk assessment, 2008)

Water solubility

858 g/L (25°C) (HSDB)

Persistence and degradability

Degrade rapidly [BOD : 65.0%/3 weeks; TOC : 98.8%/3 weeks; GC : 100%/3 weeks (MITI official bulletin)]

Bioaccumulative potential

log Pow=0.22 (PHYSPROP DB, 2005)

Mobility in soil

Mobility in soil data is not available.

Other adverse effects

Ozone depleting chemical data is not available.

13. Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging

Waste treatment methods

Avoid release to the environment.

Dispose of contents/container in accordance with local/national regulation.

14. Transport Information

UN No., UN CLASS

UN No. or ID No.: 1751

UN Proper Shipping Name : CHLOROACETIC ACID, SOLID

Class or division (Transport hazard class) : 6.1

Subsidiary hazard(s) : 8

Packing group : II

ERG GUIDE No.: 153

IMDG Code (International Maritime Dangerous Goods Regulations)

UN No.: 1751

Proper Shipping Name : CHLOROACETIC ACID, SOLID

Class or division : 6.1

Subsidiary hazard(s) : 8

Packing group : II

IATA Dangerous Goods Regulations

UN No.: 1751

Proper Shipping Name : CHLOROACETIC ACID, SOLID

Class or division : 6.1

Subsidiary hazard(s) : 8

Hazard labels : Toxic & Corrosive

Packing group : II

Environmental hazards

MARPOL Annex III – Prevention of pollution by harmful substances

Marine pollutants (yes/no) : yes

MARPOL Annex V – Prevention of pollution by garbage discharge

Hazardous to the aquatic environment – acute hazard: cat.1

Chloroacetic acid

Hazardous to the aquatic environment – long-term hazard: cat.1, 2

Chloroacetic acid

Maritime transport in bulk according to IMO instruments

Not applicable to Maritime transport in bulk according to IMO instruments

15. Regulatory Information

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

Chemicals listed in TSCA Inventory

Chloroacetic acid

Other regulatory information

We are not able to check up the regulatory information with regard to the substances in your country or region, therefore, we request this matter would be filled by your responsibility.

Regulatory information with regard to this substance in your country or in your region should be examined by your own responsibility.

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

Regulatory information in this section are limited to intentional ingredient(s), but does not contain information on non-intentional ingredients or impurities which are not informed by supplier(s).

Chemical safety assessment

Advice on safe handling for this product can be found in sections 7 and 8 of this SDS.

16. Other information

GHS classification and labelling

H301–Acute Tox. 3: H301 Toxic if swallowed
H310–Acute Tox. 2: H310 Fatal in contact with skin
H330–Acute Tox. 2: H330 Fatal if inhaled
H314–Skin Corr. 1A: H314 Causes severe skin burns and eye damage
H370–STOT SE 1: H370 Causes damage to organs
H373–STOT RE 2: H373 May cause damage to organs through prolonged or repeated exposure
H400–Aquatic Acute 1: H400 Very toxic to aquatic life
H410–Aquatic Chronic 1: H410 Very toxic to aquatic life with long lasting effects

Reference Book

Globally Harmonized System of classification and labelling of chemicals, UN
Recommendations on the TRANSPORT OF DANGEROUS GOODS 21th edit., 2019 UN
IMDG Code, 2018 Edition (Incorporating Amendment 39–18)
IATA Dangerous Goods Regulations (62nd Edition) 2021
2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
2021 TLVs and BEIs. (ACGIH)
JIS Z 7252 : 2019
JIS Z 7253 : 2019
2020 Recommendation on TLVs (JSOH)
Supplier's data/information
Chemicals safety data management system "GHS Assistant" Version 4.11 (<https://www.asahi-ghs.com/>)
NITE Chemical Risk Information Platform "NITE-CHRIP"
(https://www.nite.go.jp/en/chem/chrip/chrip_search/systemTop)
GHS Classification Guidance for Enterprises 2019 Revised Edition (Ver. 2.0) (Mar. 2020, METI)

Definitions and Abbreviations

SDS (Safety Data Sheet)
LD50 (Lethal Dose, 50%)
LC50 (Lethal Concentration, 50%)
IARC (International Agency for Research on Cancer)
ACGIH (American Conference of Governmental Industrial Hygienists)
EPA (US Environmental Protection Agency)
NTP (US National Toxicology Program)
JSOH (Japan Society for Occupational Health)
EU (European Union)
EC50 (Effective Concentration, 50%)
NOEC (No Observed Effect Concentration)
BOD (Biochemical Oxygen Demand)
COD (Chemical Oxygen Demand)
BCF (Bioconcentration Factor)
anh (anhydride)

General Disclaimer

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.

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 2019).