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Safety Data Sheet

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

Product identifier:
Product name: 1,1,2,2-Tetrachloroethane
SDS No. : 7661E-2
Relevant identified uses of the substance or mixture and uses advised against
Research and Development
Details of the supplier of the safety data sheet
Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.
Address: 3-1, Honmachibashi, Chuo-ku, Osaka, JAPAN
Division: Chemical Safety Management Department
Telephone number: +81-6-6946-8061
FAX: +81-6-6946-1607
e-mail address: kagakuhinanzenkanri@kishida.co.jp

Section 2. Hazards identification

GHS classification and label elements of the product
Classification of the substance or mixture
HEALTH HAZARDS
Acute toxicity (Oral): Category 4
Acute toxicity (Inhalation): Category 3
Skin corrosion/irritation: Category 2
Serious eye damage/eye irritation: Category 2A
Germ cell mutagenicity: Category 2
Carcinogenicity: Category 1B
Specific target organ toxicity - single exposure: Category 1 (liver, central nervous system, kidneys)
Specific target organ toxicity - single exposure: Category 3 (Respiratory tract irritation)
Specific target organ toxicity - single exposure: Category 3 (Narcotic effects)
Specific target organ toxicity - repeated exposure: Category 1 (liver, central nervous system)
ENVIRONMENT HAZARDS
Hazardous to the aquatic environment, short-term (acute): Category 2
(Note) GHS classification without description: Not classified/Classification not possible
Label elements

Signal word: Danger
HAZARD STATEMENT
Harmful if swallowed
Toxic if inhaled
Causes skin irritation
Causes serious eye irritation
Suspected of causing genetic defects
May cause cancer
Causes damage to organs (liver, central nervous system, kidneys)
May cause respiratory irritation

May cause drowsiness or dizziness
Causes damage to organs through prolonged or repeated exposure (liver, central nervous system)
Toxic to aquatic life

PRECAUTIONARY STATEMENT

Prevention

Avoid release to the environment.
Do not breathe dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Wash contaminated parts thoroughly after handling.
Wear protective gloves.
Wear eye protection/face protection.
Do not eat, drink or smoke when using this product.

Response

Get medical advice/attention if you feel unwell.
IF exposed or concerned: Get medical advice/attention.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation occurs: Get medical advice/attention.
Take off 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 eye irritation persists: Get medical advice/attention.
IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell.
IF SWALLOWED: Rinse mouth.

Storage

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

Disposal

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

Section 3. Composition/information on ingredients

Mixture/Substance selection:

Substance

Ingredient name:1,1,2,2-Tetrachloroethane
Content (%):96(min)
Chemical formula:C2H2Cl4
Chemicals No, Japan:2-56
CAS No.:79-34-5
MW:167.85
ECNO:201-197-8

Note : The figures shown above are not the specifications of the product.

Section 4. First-aid measures

Descriptions of first-aid measures

General measures

Get medical advice/attention if you feel unwell.
Call a POISON CENTER/doctor/physician.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.
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.
If skin irritation 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/doctor/physician if you feel unwell.

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.

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.

Advice for firefighters

Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

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 peace operated positive pressure mode.

Section 6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Ventilate area until material pick up is complete.
Wear proper protective equipment.

Environmental precautions

Prevent spills from entering sewers, watercourses or low areas.

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.

Section 7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

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

(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 or face protection.
Wear eye protection/face protection.
When using do not eat, drink or smoke.
Any incompatibilities
See "10.Stability and Reactivity"
Advice on general occupational hygiene
Wash contaminated parts thoroughly after handling.
Do not eat, drink or smoke when using this product.
Take off contaminated clothing and wash it before reuse.
Storage
Conditions for safe storage
Keep container tightly closed.
Store in a cool, dry place. Do not store in direct sunlight.
Container and packaging materials for safe handling
Glass
Stainless steel
Iron

Section 8. Exposure controls/personal protection
Control parameters
Adopted value
(1,1,2,2-Tetrachloroethane)
ACGIH(1997) TWA: 1ppm (Liver dam)
Notation
(1,1,2,2-Tetrachloroethane)
Skin
OSHA-PEL
(1,1,2,2-Tetrachloroethane)
TWA: 5ppm, 35mg/m3
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.

Section 9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Liquid
Color: Colourless, Clear
Odor: Characteristic odour
Melting point/Freezing point: -44℃
Boiling point or initial boiling point: (1,1,2,2-Tetrachloroethane)146℃
Boiling range data is not available.
Flammability (gases, liquids and solids) data is not available.
Lower and upper explosion limit/flammability limit data is not available.
Flash point data is not available.
Auto-ignition temperature data is not available.
Decomposition temperature data is not available.
pH data is not available.
Kinematic viscosity data is not available.
Solubility:
Solubility in water: 0.29g/100 ml (20℃)
n-Octanol/water partition coefficient: log Pow2.39
Vapor pressure: 647 Pa (20℃)
Density and/or relative density: 1.59
Relative vapor density (Air=1): 5.8
Relative density of the Vapor/air - mixture at 20℃ (Air = 1): 1.03
Particle characteristics data is not available.

Section 10. Stability and Reactivity

Reactivity
Not available.
Chemical stability
Stable under normal storage/handling conditions.
Possibility of hazardous reactions
Decomposes on heating and under the influence of air, UV light and moisture. This produces toxic and corrosive gases including hydrogen chloride and phosgene. Reacts violently with alkali metals, strong bases and powdered metals. This produces toxic and corrosive gases. Attacks plastics and rubber. (ICSC 0332)
Conditions to avoid
Contact with incompatible materials.
Contact with fire source.
Incompatible materials
Strong bases, Alkali metals, Powdered metals
Hazardous decomposition products
Hydrogen chloride, Phosgene

Section 11. Toxicological Information

Information on toxicological effects
Acute toxicity
Acute toxicity (Oral)
[Data for components of the product]
[GHS Cat. Japan, base data]
(1,1,2,2-Tetrachloroethane)
rat LD50=200-800mg/kg (IRIS TR, 2010)
Acute toxicity (Inhalation)

[Data for components of the product]
[GHS Cat. Japan, base data]
(1,1,2,2-Tetrachloroethane)
vapor: rat LC50=1000ppm/4hr (ACGIH, 2001)

Irritant properties

Skin corrosion/irritation

[Data for components of the product]
[GHS Cat. Japan, base data]
(1,1,2,2-Tetrachloroethane)
rabbit severe irritation (SIDS, 2005)

Serious eye damage/irritation

[Data for components of the product]
[GHS Cat. Japan, base data]
(1,1,2,2-Tetrachloroethane)
rabbit/guinea pig/human irritation (SIDS, 2005)

Allergenic and sensitizing effects data is not available.

Germ cell mutagenicity

[Data for components of the product]
[GHS Cat. Japan, base data]
(1,1,2,2-Tetrachloroethane)
cat. 2; rat : MOE Environmental Risk Assessment for Chemical Substances Vol.8, 2010

Carcinogenicity

[Data for components of the product]
[GHS Cat. Japan, base data]
(1,1,2,2-Tetrachloroethane)
Cat 1B; EPA L (IRIS, 2010)
[IARC]
(1,1,2,2-Tetrachloroethane)
Group 2B : Possibly carcinogenic to humans
[ACGIH]
(1,1,2,2-Tetrachloroethane)
A3(1997) : Confirmed Animal Carcinogen with Unknown Relevance to Humans

Reproductive toxicity data is not available.

Specific target organ toxicity (STOT)

STOT-single exposure

[Data for components of the product]
[cat.1]
[GHS Cat. Japan, base data]
(1,1,2,2-Tetrachloroethane)
liver, central nervous system, kidneys (SIDS, 2005; PATTY 6th, 2012)
[cat.3 (respiratory tract irritation)]
[GHS Cat. Japan, base data]
(1,1,2,2-Tetrachloroethane)
respiratory tract irritation (SIDS, 2005; PATTY 6th, 2012)
[cat.3 (narcotic effects)]
[GHS Cat. Japan, base data]
(1,1,2,2-Tetrachloroethane)
narcotic effect (SIDS, 2005; PATTY 6th, 2012)

STOT-repeated exposure

[Data for components of the product]
[cat.1]
[GHS Cat. Japan, base data]
(1,1,2,2-Tetrachloroethane)
liver, central nervous system (SIDS, 2005; ATSDR, 2008)

Aspiration hazard data is not available.

Section 12. Ecological Information

Toxicity

Aquatic toxicity

[Data for components of the product]

Hazardous to the aquatic environment, short-term (acute)

[GHS Cat. Japan, base data]

(1,1,2,2-Tetrachloroethane)

Crustacea (Daphnia magna) EC50=9.3mg/L/48hr (SIDS, 2005)

Water solubility

(1,1,2,2-Tetrachloroethane)

0.29 g/100 ml (20℃) (ICSC, 2005)

Persistence and degradability

Persistence and degradability data is not available.

Bioaccumulative potential

[Data for components of the product]

(1,1,2,2-Tetrachloroethane)

log Pow=2.39 (ICSC, 2005)

Mobility in soil

Mobility in soil data is not available.

Other adverse effects

Ozone depleting chemical data is not available.

Section 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.

Section 14. Transport Information

UN Number or ID Number : 1702

UN Proper Shipping Name :

1,1,2,2-TETRACHLOROETHANE

Class or division (Transport hazard class) : 6.1

Packing group : II

ERG GUIDE No.: 151

IMDG Code (International Maritime Dangerous Goods Regulations)

UN Number or ID Number : 1702

UN Proper Shipping Name :

1,1,2,2-TETRACHLOROETHANE

Class or division (Transport hazard class) : 6.1

Packing group : II

IATA (Dangerous Goods Regulations)

UN Number or ID Number : 1702

UN Proper Shipping Name :

1,1,2,2-TETRACHLOROETHANE

Class or division (Transport hazard class) : 6.1

Hazard labels : Toxic

Packing group : II

Environmental hazards
Marine pollutants (yes/no) : yes
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Noxious Liquid Substances ; Cat. Y
1,1,2,2-Tetrachloroethane

Section 15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture
U.S. Toxic Substances Control Act (TSCA) Inventory
Chemicals listed in TSCA Inventory
1,1,2,2-Tetrachloroethane
Other regulatory information
Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

Section 16. Other information

GHS classification and labelling
Acute toxicity, Category 4: H302 Harmful if swallowed
Acute toxicity, Category 3: H331 Toxic if inhaled
Skin corrosion/irritation, Category 2: H315 Causes skin irritation
Serious eye damage/eye irritation, Category 2A: H319 Causes serious eye irritation
Germ cell mutagenicity, Category 2: H341 Suspected of causing genetic defects
Carcinogenicity, Category 1B: H350 May cause cancer
STOT - single exposure, Category 1: H370 Causes damage to organs
STOT - single exposure, Category 3, Respiratory tract irritation: H335 May cause respiratory irritation.
STOT - single exposure, Category 3, Narcotic effects: H336 May cause drowsiness or dizziness.
STOT - Repeated exposure, Category 1: H372 Causes damage to organs through prolonged or repeated exposure
Hazardous to the aquatic environment, short-term (acute), Category 2: H401 Toxic to aquatic life
References and sources for data
Globally Harmonized System of classification and labelling of chemicals, UN
Recommendations on the TRANSPORT OF DANGEROUS GOODS 21th edit., 2019 UN
IMDG Code, 2020 Edition (Incorporating Amendment 40-20)
IATA Dangerous Goods Regulations (62nd Edition) 2021
2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
2022 TLVs and BEIs. (ACGIH)
Supplier's data/information
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 2021).