Date of issue: 28/01/2014
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Safety Data Sheet

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

Product identifier:

Product name: Chloroform

Product code(SDS NO): 28560jis_J_E1-3

Details of the supplier of the safety data sheet

Manufacturer/Supplier: JUNSEI CHEMICAL CO., LTD.
Address: 1-6, Ohmano-Cho, Koshigaya, Saitama 343-0844, Japan
Division: Quality Assurance Department
Telephone number: +81-48-986-6161
FAX: +81-48-989-2787
e-mail address: shiyaku-t@junsei.co.jp

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 4
Skin corrosion/irritation: Category 2
Serious eye damage/eye irritation: Category 1
Germ cell mutagenicity: Category 2
Carcinogenicity: Category 2
Reproductive toxicity: Category 2
Specific target organ toxicity - single exposure: Category 1
(respiratory system, cardiovascular system, liver, kidney)
Specific target organ toxicity - single exposure: Narcosis Category 3
Specific target organ toxicity - repeated exposure: Category 1
(central nervous system, respiratory system, liver, kidney)

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment - acute hazard: Category 3
Hazardous to the aquatic environment - long-term hazard: Category 1

(Note) GHS classification without description: Not applicable/Out of classification/Not classifiable

Label elements

Signal word: Danger

HAZARD STATEMENT

Harmful if swallowed
Harmful if inhaled
Causes skin irritation
Causes serious eye damage
Suspected of causing genetic defects
Suspected of causing cancer
Suspected of damaging fertility or the unborn child
Causes damage to organs after single exposure
May cause drowsiness or dizziness

Causes damage to organs through prolonged or repeated exposure
Harmful to aquatic life
Very toxic to aquatic life with long lasting effects

PRECAUTIONARY STATEMENT

Prevention

Do not handle until all safety precautions have been read and understood.
Avoid release to the environment.
Do not breathe vapors.
Use only outdoors or in a well-ventilated area.
Wash contaminated parts thoroughly after handling.
Wear protective gloves.
Wear eye protection/face protection.
Use personal protective equipment as required.
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 or 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 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 SWALLOWED: Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.

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

Substance/Mixture:

Substance

Ingredient name:Chloroform
Content(%):99.0 <
Chemical formula:$CHCl_3$
Chemicals No, Japan:2-37
CAS No.:67-66-3
MW:119.38
ECNO:200-663-8

Impurities and stabilizing additives

Stabilizer: 0.3～1.0%　Ethanol

4. First-aid measures

Descriptions of first-aid measures

General measures

Get medical attention/advice if you feel unwell.
Immediately call a POISON CENTER or doctor/physician.

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.

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 or doctor/physician if you feel unwell.

Most important symptoms and effects, both acute and delayed

(Symptoms when inhalation or ingestion)

Cough. Dizziness. Drowsiness. Headache. Nausea. Unconsciousness. Abdominal pain. Vomiting.

(Symptoms when skin and/or eye contact)

Redness. Pain. Dry skin.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.

The product is non-flammable.

Unsuitable extinguishing media

Do not use direct water jet.

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/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

Keep unauthorized personnel away.

In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.

Ventilate area after material pick up is complete.

Wear proper protective equipment.

Environmental precautions

Avoid release to the rivers, lakes, ocean, groundwater.

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.

Stop leak if you can do it without risk.
Prevent entry into waterways, sewers, basements or confined areas.

7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

Do not breathe vapors.

(Protective measures against fire & 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.
Avoid breathing vapors.

Safety Measures/Incompatibility

Do not handle until all safety precautions have been read and understood.
Use only outdoors or in a well-ventilated area.
Wear protective gloves, protective clothing or face protection.
Wear protective gloves.
Wear eye protection/face protection.
Use personal protective equipment as required.
When using do not eat, drink or smoke.

Conditions for safe storage, including any incompatibilities

Recommendation for storage

Store in a well-ventilated place. Keep container tightly closed.
Keep cool. Protect from sunlight.
Store locked up.

8. Exposure controls/personal protection

Control parameters

Control value

Japan control value (2009) <= 3 ppm

Adopted value

JSOH(2005) 3ppm; 14.7mg/m3 (dermal)
ACGIH(1990) TWA: 10ppm (Liver & embryo/fetal dam; CNS impair)

OSHA-PEL

50ppm, 240mg/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.
Wear positive pressure self-contained breathing apparatus (SCBA).

Hand protection

Wear protective gloves. Recommended material(s): impermeable or chemical resistant rubber
Consult with your glove and/or personnel equipment manufacturer for selection of appropriate compatible materials.

Eye protection

Wear safety glasses with side-shields.

Wear eye/face protection.

Safety and Health measures

Wash ... thoroughly after handling.

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

Take off contaminated clothing and wash it before reuse.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical properties

Appearance: Volatile liquid

Color: Colorless

Odor: Characteristic odor

pH data N.A.

Phase change temperature

Initial Boiling Point/Boiling point: 62℃

Melting point/Freezing point: -64℃

Decomposition temperature data N.A.

Flash point data N.A.

Auto-ignition temperature data N.A.

Explosive properties data N.A.

Vapor pressure: 21.2kPa(20℃)

Relative Vapor Density (Air=1): 4.12

Relative density of the Vapor/air-mixture at 20℃ (Air = 1): 1.7

Specific gravity/Density: 1.48g/cm3(20℃)

Solubility

Solubility in water: 0.8g/100 ml (20℃)

Solubility in solvent: Miscible with ethanol and diethyl ether.

n-Octanol /water partition coefficient: log Pow1.97

10. Stability and Reactivity

Reactivity

Runaway polymerization will not occur.

Chemical stability

Stable under normal storage/handling conditions.

Possibility of hazardous reactions

The vapour is heavier than air.

Decomposes on contact with hot surfaces or flames. This produces toxic and corrosive fumes of of hydrogen chloride, phosgene and chlorine.

Reacts violently with strong bases, strong oxidants and some metals such as aluminium, magnesium and zinc. This generates fire and explosion hazard.

Attacks plastics, rubber and coatings.

Conditions to avoid

Contact with incompatible materials.

Light, Heat.

Incompatible materials

Strong bases, Strong oxidizing agents, Aluminium, Magnesium, Zinc.

Hazardous decomposition products

Carbon oxides, Hydrogen chloride, Phosgene, Chlorine.

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[GHS Cat. Japan, base data]

rat LD50=695 mg/kg (EPA_J assessment vol.2, 2003)

Acute toxicity (Inhalation)

[GHS Cat. Japan, base data]

vapor : rat LC50=9636 ppm/4hr (EPA_JP risk assessment vol.2, 2003)

Labor standard law, Japan; Toxic

Chloroform

Irritant properties

Skin corrosion/irritation

[GHS Cat. Japan, base data]

rabbit : moderate skin necrosis et al. (EHC 163, 1994)

Serious eye damage /irritation

[GHS Cat. Japan, base data]

rabbit : severe irritating (EHC 163, 1994)

No Allergenic and sensitizing effects data available

Germ cell mutagenicity

[GHS Cat. Japan, base data]

cat.2; NITE hazard assessment, 2008

Carcinogenicity

[GHS Cat. Japan, base data]

cat.2; IARC (1999) Gr.2B et al.

IARC-Gr.2B : Possibly carcinogenic to humans

ACGIH-A3(1990) : Confirmed Animal Carcinogen with Unknown Relevance to Humans

JSOH-2B: Insufficient Evidence of Carcinogenicity for Humans

EPA "Not Likely" to be carcinogenic(Lexp)(1996)

EPA "Likely to Be Carcinogenic to Humans"(Hexp)(2005)

NTP-Reasonably Anticipated To Be Human Carcinogen

EU-Category 2; Substances suspected human carcinogens

Reproductive toxicity

[GHS Cat. Japan, base data]

cat.2; NITE hazard assessment, 2008

No Teratogenic effects data available

Delayed and immediate effects and also chronic effects from short- and long-term exposure

STOT

STOT-single exposure

[cat.1]

[Japan published data]

respiratory apparatus/system; CVS; liver; kidney (NITE risk primary assessment, 2008 et al.)

[cat.3(drow./dizz.)]

[Japan published data]

Narcosis (NITE risk primary assessment, 2008 et al.)

STOT-repeated exposure

[cat.1]

[Japan published data]

CNS; respiratory apparatus/system; liver; kidney (NITE risk primary assessment, 2008 et al.)

No Aspiration hazard data available

12. Ecological Information

Toxicity

Aquatic toxicity

Harmful to aquatic life

Very toxic to aquatic life with long lasting effects

Aquatic acute toxicity component(s) data

[GHS Cat. Japan, base data]

Algae (Chlamydomonas) EC50=13.3 mg/L/72hr (EU-RAR, 2007)

Aquatic chronic toxicity component(s) data

[GHS Cat. Japan, base data]

Fish(rainbow trout) NOEC＝0.059 mg/L/21 days (EPA_Japan, 2003)

Water solubility

0.8 g/100 ml (20℃) (ICSC, 2000)

Persistence and degradability

Not degrade rapidly [BOD_Degradation : 0%/14 days; GC_Degradation: 4.6%/14 days (MITI official bulletin)]

Bioaccumulative potential

log Pow=1.97 (ICSC, 2000) ; BCF=13(Registered chemicals data check & review)

13. Disposal considerations

Waste treatment methods

Avoid release to the environment (– if this is not the intended use).

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

14. Transport Information

UN No, UN CLASS

UN number: 1888

UN proper shipping name: CHLOROFORM

Transport hazard class(es): 6.1

Packing group: III

ERG GUIDE NO.: 151

Transport in bulk according to Annex II of MARPOL73/78 and IBC Code

Noxious Liquid ; Cat. Y･･･Chloroform

15. Regulatory Information

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

US major regulations

TSCA

Chloroform

Other regulatory information

We are not able to check up the regulatory information in 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.

16. Other information

GHS classification and labelling

Acute Tox. 4: H302 Harmful if swallowed

Acute Tox. 4: H332 Harmful if inhaled

Skin Irrit. 2: H315 Causes skin irritation

Eye Dam. 1: H318 Causes serious eye damage

Muta. 2: H341 Suspected of causing genetic defects
Carc. 2: H351 Suspected of causing cancer
Repr. 2: H361 Suspected of damaging fertility or the unborn child
STOT SE 1: H370 Causes damage to organs after single exposure
STOT SE 3: H336 May cause drowsiness or dizziness
STOT RE 1: H372 Causes damage to organs through prolonged or repeated exposure
Aquatic Acute 3: H402 Harmful to aquatic life
Aquatic Chronic 1: H410 Very toxic to aquatic life with long lasting effects

Reference Book

Globally Harmonized System of classification and labelling of chemicals, (5th ed., 2013), UN
Recommendations on the TRANSPORT OF DANGEROUS GOODS 19th edit., 2015 UN
Classification, labelling and packaging of substances and mixtures (table3-1 ECNO6182012)
2012 EMERGENCY RESPONSE GUIDEBOOK(US DOT)
2016 TLVs and BEIs. (ACGIH)
http://monographs.iarc.fr/ENG/Classification/index.php
Supplier's data/information
Chemical Risk Information Platform (CHRIP)(NITE) http://www.safe.nite.go.jp/japan/db.html
GHS Classification Guidance for Enterprises 2013 Revised Edition (August, 2013,METI)

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 2015).