Date of issue: 27/06/2014
revised date 02/03/2017

Safety Data Sheet

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

Product identifier:

Product name: Sulfuric acid

Product code(SDS NO): 83010jis_E-2

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 Inhalation: Category 2
Skin corrosion/irritation: Category 1A
Serious eye damage/eye irritation: Category 1
Specific target organ toxicity - single exposure: Category 1(respiratory system)
Specific target organ toxicity - repeated exposure: Category 1(respiratory system)

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment - acute hazard: Category 3

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

Label elements

Signal word: Danger

HAZARD STATEMENT

Fatal if inhaled
Causes severe skin burns and eye damage
Causes serious eye damage
Causes damage to organs after single exposure
Causes damage to organs through prolonged or repeated exposure
Harmful to aquatic life

PRECAUTIONARY STATEMENT

Prevention

Avoid release to the environment.
Do not breathe dust/fume/mist.
Wear respiratory protection.(as specified by the manufacturer/supplier or the competent authority.)
Use only outdoors or in a well-ventilated area.
Wash contaminated parts thoroughly after handling.
Wear protective gloves, protective clothing or face protection.
Wear eye protection/face protection.

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

Response

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 (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
Wash contaminated clothing 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. 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

Substance/Mixture:

Substance

Ingredient name:Sulfuric acid
Content(%):95.0 <
Chemical formula:H2O4S
Chemicals No, Japan:1-430
CAS No.:7664-93-9
MW:98.08
ECNO:231-639-5

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.
If skin irritation or rash 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. Do NOT induce vomiting.
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. Sore throat. Burning sensation. Shortness of breath. Laboured breathing.
Burns in mouth and throat. Burning sensation behind the breastbone. Abdominal pain. Vomiting.
Shock or collapse.
※Inhalation may cause lung oedema.

(Symptoms when skin and/or eye contact)

Redness. Pain. Blisters. Serious burns.

Protective measures for first aid

Protect yourself by wearing rubber gloves and air-tight safety goggles.

Indication of any immediate medical attention and special treatment needed

The symptoms of lung oedema often do not become manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation are therefore essential.

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

Never use water.

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.

Keep drums, etc., cool by spraying with water. NO direct contact with water.

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

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

Cautiously neutralize remainder with lime or soda ash.

Absorb spill with inert material (dry sand, earth, et al), then place in a chemical waste container.

Do NOT absorb in saw-dust or other combustible absorbents.

Preventive measures for secondary accident

Collect spillage.

Stop leak if you can do it without risk.

7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

Do not breathe dust/fume/mist.

(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 dust, fume or mist.

Safety Measures/Incompatibility

Use only outdoors or in a well-ventilated area.

Wear protective gloves, protective clothing or face protection.

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

No control value data available

Adopted value

JSOH(2000) (ceiling limit) 1mg/m3

ACGIH(2000) TWA: 0.2mg/m3(T) (Pulm func)

OSHA-PEL

TWA 1mg/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 or chemical safety goggle.

Wear eye/face protection.

Safety and Health measures

Wash ... thoroughly after handling.

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

Wash contaminated clothing before reuse.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical properties

Appearance: Oily liquid

Color: Colorless-clear

Odor: None

pH: pH <= 1(Strong acidic)

Phase change temperature

Initial Boiling Point/Boiling point: ca. 335℃

Melting point/Freezing point: 10℃

Decomposition temperature: 340℃

Flash point data N.A.

Auto-ignition temperature data N.A.

Explosive properties data N.A.

Vapor pressure: < 10 Pa (20℃)

Relative Vapor Density (Air=1): 3.4

Specific gravity/Density: 1.84g/cm3(20℃)

Viscosity: ca. 24mPas(20℃)

Solubility

Solubility in water: Miscible

n-Octanol /water partition coefficient data N.A.

10. Stability and Reactivity

Reactivity

React with water.

Chemical stability

Stable under normal storage/handling conditions.

Hygroscopic.

Possibility of hazardous reactions

The substance reacts with combustible and reducing materials and organic materials. This generates fire and explosion hazard.

The substance reacts violently with bases and is corrosive to most common metals forming a flammable/explosive gas.

Reacts violently with water. This generates heat and fire or explosion hazard.

Attacks many plastics.

Decomposes on heating. This produces toxic and corrosive gases including sulfur oxides.

Conditions to avoid

Contact with incompatible materials.

Heat.

Incompatible materials

Bases, Reducing agents, Metals, Combustible substances, Organic materials

Hazardous decomposition products

Sulfur oxides, Hydrogen gas

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[GHS Cat. Japan, base data]

rat LD50=2140 mg/kg (SIDS, 2001)

Acute toxicity (Inhalation)

[GHS Cat. Japan, base data]

mist : rat LC50=0.347 mg/L/4hr （SIDS, 2001）

Labor standard law, Japan; Toxic

Sulfuric acid

Irritant properties

Skin corrosion/irritation

[GHS Cat. Japan, base data]

corrosive substance

Serious eye damage /irritation

[GHS Cat. Japan, base data]

human : severe damage (ATSDR, 1998)

No Allergenic and sensitizing effects data available

No Mutagenic effects data available

Carcinogenicity

[GHS Cat. Japan, base data]

Sulfuric acids itself was classified into the category 4 (DFGOT vol.15, 2001). Also, none of those institutions has not carried out the carcinogenic classification.

IARC-Gr.1 : Carcinogenic to humans

ACGIH-A2(2000) : Suspected Human Carcinogen

No reproductive toxicity 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 (ATSDR, 1998)

STOT-repeated exposure

[cat.1]

[Japan published data]

respiratory apparatus/system (ATSDR, 1998)

No Aspiration hazard data available

12. Ecological Information

Toxicity

Aquatic toxicity

Harmful to aquatic life

Aquatic acute toxicity component(s) data

[GHS Cat. Japan, base data]

Fish(bluegill) LC50=16～28mg/L/96hr (SIDS, 2003)

Water solubility

miscible (ICSC, 2000)

No Persistence and degradability data available

No Bioaccumulative potential data available

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: 1830

UN proper shipping name: SULPHURIC ACID with more than 51% acid

Transport hazard class(es): 8

Packing group: II

ERG GUIDE NO.: 137

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

Noxious Liquid ; Cat. Y･･･Sulfuric acid

15. Regulatory Information

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

US major regulations

TSCA

Sulfuric acid

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. 2: H330 Fatal if inhaled
Skin Corr. 1A: H314 Causes severe skin burns and eye damage
Eye Dam. 1: H318 Causes serious eye damage
STOT SE 1: H370 Causes damage to organs after single exposure
STOT RE 1: H372 Causes damage to organs through prolonged or repeated exposure
Aquatic Acute 3: H402 Harmful to aquatic life

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).