

Safety Data Sheet

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

Product identifier:

Product name: Zinc, powder

Product code (SDS NO): 10035jis_J_E1-2

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

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

PHYSICAL AND CHEMICAL HAZARDS

Substances and mixtures which, in contact with water, emit flammable gases: Category 2

HEALTH HAZARDS

Serious eye damage/eye irritation: Category 2B

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

H261-In contact with water releases flammable gases

H320-Causes eye irritation

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 allow contact with water.

Handle under inert gas/appropriate liquid or gas. Protect from moisture.

Wash contaminated parts thoroughly after handling.

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

Response

In case of fire: Use appropriate media other than water for extinction.

Collect spillage.

IF ON SKIN: Brush off loose particles from skin. Immerse in cool water.

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.

Storage

Store in a dry place. Store in a closed container.

Disposal

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

Specific Physical and Chemical hazards

May catch fire or form flammable gas in contact with water.

3. Composition/information on ingredients**Mixture/Substance selection:****Substance**

Ingredient name:Zinc

Content (%):85.0 <

Chemical formula:Zn

CAS No.:7440-66-6

MW:65.39(AW)

ECNO:231-175-3

4. First-aid measures**Descriptions of first-aid measures****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 ON SKIN: Brush off loose particles from skin. Immerse in cool water.

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.

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)

Metallic taste. Sore throat. Cough. Weakness. Fever. Abdominal pain. Nausea. Vomiting.

(Symptoms when skin and/or eye contact)

Redness of the eyes.

5. Fire-fighting measures**Extinguishing media****Suitable extinguishing media**

In case of fire, use dry powder, dry sand to extinguish.

Unsuitable extinguishing media

Water. Foam. CO2.

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.

May re-ignite after fire is extinguished.

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/flare resistant/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.

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

Ventilate area until material pick up is complete.

Wear proper protective equipment.

PUBLIC SAFETY: Ventilate closed spaces before entering.

Environmental precautions

Runoff to sewer may create fire or explosion hazard.

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

Methods and materials for containment and cleaning up

Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry.

Cover with DRY earth, DRY sand, or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain.

DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST.

Dike for later disposal; do not apply water unless directed to do so.

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).

DO NOT GET WATER on spilled substance or inside containers.

7. Handling and storage**Precautions for safe handling****Preventive measures**

(Exposure Control for handling personnel)

Avoid breathing dust/fume/gas/mist/vapors/spray.

(Protective measures against fire and explosion)

Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

Do not allow contact with water.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

Safety Measures

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

Use personal protective equipment as required.

Handle under inert gas/appropriate liquid or gas. Protect from moisture.

When using do not eat, drink or smoke.

May produce corrosive solutions on contact with water.

Any incompatibilities

Acids, Bases, Oxidizing agents, Water, Sulfur, Halogenated hydrocarbons should not be mixed with the chemicals.

Advice on general occupational hygiene

Wash contaminated parts thoroughly after handling.

Storage**Conditions for safe storage**

Store in a well-ventilated place.

Keep cool. Protect from sunlight.

Store in a dry place. Store in a closed container.

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

8. Exposure controls/personal protection**Control parameters**

Control value in MHLW is not available.

Adopted value

JSOH Class 3 dust (Inorganic and organic dusts other than Classes 1 and 2)

respirable dust 2mg/m³

total dust 8mg/m³

Adopted value in ACGIH is not available.

OSHA-PEL value is not available.

NIOSH-REL value is not available.

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.

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.

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: Powder

Color: Grey~Blue

Odor: None

Odor threshold data is not available.

pH data is not available.

Boiling point or initial boiling point: 907°C

Boiling range data is not available.

Evaporation rate data is not available.

Melting point/Freezing point: 419°C

Decomposition temperature data is not available.

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

Flammability (gases, liquids and solids) data is not available.

Flash point data is not available.

Auto-ignition temperature: 460°C

Critical temperature data is not available.

Lower and upper explosion limit/flammability limit data is not available.

Vapor pressure: 0.1 kPa (487°C)

Vapor density data is not available.

VOC data is not available.

Relative vapor density (Air=1) data is not available.

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

Density and/or relative density: 7.133g/cm³(25°C)

Dynamic viscosity data is not available.

Kinematic viscosity data is not available.

Solubility:

Solubility in water: Reaction

Solubility in solvent data is not available.

n-Octanol/water partition coefficient data is not available.

No Particle characteristics data is not available.

10. Stability and Reactivity

Reactivity

Runaway polymerization will not occur.

React with water.

Chemical stability

Stable under normal storage/handling conditions.

Highly flammable.

Possibility of hazardous reactions

May form explosive dust-air mixtures.

Ignites in air when finely divided.

If dry, it can be charged electrostatically by swirling, pneumatic transport, pouring, etc.

On combustion forms zinc oxide fumes.

The substance is a strong reducing agent. It reacts violently with oxidants, acids and bases.

Reacts with water. This produces flammable/explosive gas.

Reacts violently with sulfur, halogenated hydrocarbons and many other substances. This generates fire and explosion hazard.

Conditions to avoid

Contact with incompatible materials.

Open flames. Heat. Sparks. Moisture.

Incompatible materials

Acids, Bases, Oxidizing agents, Water, Sulfur, Halogenated hydrocarbons

Hazardous decomposition products

Hydrogen gas, Zinc oxides.

11. Toxicological Information

Information on toxicological effects

Acute toxicity data is not available.

Labor standard law, Japan; Toxic

Zinc

Irritant properties

Skin corrosion/irritation data is not available.

Serious eye damage/irritation

[GHS Cat. Japan, base data]

rabbit : mild irritation (NITE primary risk assessment, 2007)

Allergenic and sensitizing effects data is not available.

Mutagenic effects data is not available.

Carcinogenicity

EPA-I; "Inadequate Information to Assess Carcinogenic Potencial"(2005)

Reproductive toxicity data is not available.

STOT

STOT-single exposure data is not available.

STOT-repeated exposure data is not available.

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 (Pseudokirchneriella subcapitata) ErC50=0.15mg/L/72hr (EHC 221, 2001)

Water solubility

Reaction (ICSC, 2019)

Persistence and degradability

Persistence and degradability data is not available.

Bioaccumulative potential

Bioaccumulative potential data is not available.

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 (- 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 No.: 1436

Proper Shipping Name : ZINC POWER or ZINC DUST

Class or division : 4.3

Subsidiary hazard(s) : 4.2

Packing group : II

ERG GUIDE No.: 138

IMDG Code (International Maritime Dangerous Goods Regulations)

UN No.: 1436

Proper Shipping Name : ZINC POWER or ZINC DUST

Class or division : 4.3

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Subsidiary hazard(s) : 4.2

Packing group : II

IATA Dangerous Goods Regulations

UN No.: 1436

Proper Shipping Name : ZINC POWER or ZINC DUST

Class or division : 4.3

Subsidiary hazard(s) : 4.2

Hazard labels : Dang. when wet & Spont. comb.

Packing group : II

Environmental hazards

MARPOL Annex III – Prevention of pollution by harmful substances

Marine pollutants (yes/no) : yes

15. Regulatory Information

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

Environmental hazards

MARPOL Annex V – Prevention of pollution by garbage discharge

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

Zinc

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

Zinc

US Federal Regulations

Chemicals listed in TSCA Inventory

Zinc

Superfund Amendments and Reauthorizations Act (SARA), Title III

SARA 313 (TRI) Reporting Year 2020

Zinc

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).

16. Other information

GHS classification and labelling

H261–Water-react. 2: H261 In contact with water releases flammable gases

H320–Eye Irrit. 2B: H320 Causes eye irritation

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, (6th ed., 2015), UN Recommendations on the TRANSPORT OF DANGEROUS GOODS 20th edit., 2017 UN

IMDG Code, 2018 Edition (Incorporating Amendment 39–18)

IATA Dangerous Goods Regulations (61th Edition) 2020

Classification, labelling and packaging of substances and mixtures (Table 3 ECNO6182012)

2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

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2019 TLVs and BEIs. (ACGIH)

<http://monographs.iarc.fr/ENG/Classification/index.php>

JIS Z 7253 : 2019

JIS Z 7252 : 2019

2019 Recommendation on TLVs (JSOH)

Supplier's data/information

Chemicals safety data management system "GHS Assistant" (<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)

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 2018).

But the data are partially changed based on our judgement.