Safety Data Sheet

1. Chemical product and company identification

Product name : Sulfur (Powder)

SDS code : I1-02

Company/undertaking identification :

HAYASHI PURE CHEMICAL IND.,LTD.
Address : 3-2-12 Uchihiranomachi, Chuo-ku, Osaka, Osaka, Japan
Telephone : 06-6910-7305
E-mail : shiyaku_kikaku@hpc-j.co.jp
URL : https://www.hpc-j.co.jp/

Emergency number : 06-6910-7305

Recommended use : For research and experimental use only.

Restrictions on use : Do not use on a human body or for animal medicines, foods, household products, cosmetics, etc.

2. Hazards identification

GHS classification

Physical hazards	Desensitized explosives	classification not possible
	Explosives	No classification
	Flammable gases	No classification
	Aerosol	No classification
	Oxidizing gases	No classification
	Gases under pressure	No classification
	Flammable liquids	No classification
	Flammable solids	Category 2
	Self-reactive substances and mixtures	No classification
	Pyrophoric liquids	No classification
	Pyrophoric solids	No classification
	Self-heating substances and mixtures	classification not possible
	Substances and mixtures which in contact with water emit flammable gases	No classification
	Oxidizing liquids	No classification
	Oxidizing solids	No classification
	Organic peroxides	No classification
	Corrosive to metals	classification not possible
Health hazards	Acute toxicity (oral)	No classification
	Acute toxicity (dermal)	No classification
	Acute toxicity (inhalation:gas)	No classification
	Acute toxicity (inhalation:vapors)	No classification
	Acute toxicity (inhalation:dust/mist)	No classification
	Skin corrosion/irritation	No classification
	Serious eye damage/eye irritation	No classification
	Respiratory sensitization	classification not possible
	Skin sensitization	classification not possible
	Germ cell mutagenicity	classification not possible
	Carcinogenicity	classification not possible
	Reproductive toxicity	classification not possible
	Specific target organ toxicity (single exposure)	Category 1 (respiratory tract)

	Specific target organ toxicity (repeated exposure)	Category 2 (respiratory system, Skin)
	Aspiration hazard	classification not possible
Environmental hazards	Hazardous to the aquatic environment, short-term (acute)	No classification
	Hazardous to the aquatic environment, long-term (chronic)	classification not possible
	Hazardous to the ozone layer	classification not possible

Hazard pictograms (GHS JP)

GHS02

GHS08

Signal word (GHS JP) : Danger

Hazard statements (GHS JP) : Flammable solid (H228)
Causes damage to organs (respiratory tract) (H370)
May cause damage to organs (respiratory system, Skin) through prolonged or repeated exposure (H373)

Precautionary statements (GHS JP)

Prevention : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. (P210)
Ground and bond container and receiving equipment. (P240)
Use explosion-proof electrical/ventilating/lighting equipment. (P241)
Do not breathe dust/fume/gas/mist/vapors/spray. (P260)
Wash hands, forearms and face thoroughly after handling. (P264)
Do not eat, drink or smoke when using this product. (P270)
Wear protective gloves/protective clothing/eye protection/face protection. (P280)

Response : IF exposed or concerned: Call a POISON CENTER or doctor. (P308+P311)
Get medical advice/attention if you feel unwell. (P314)
In case of fire: Use specify appropriate media to extinguish. (P370+P378)

Storage : Store locked up. (P405)

Disposal : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation. (P501)

3. Composition/information on ingredients

Distinction of substance or mixture : Substance

Name	Concentration or Concentration range	Formula	Kanpo number		CAS RN
			CSCL no	ISHL no	
Sulfur	≧98%, ≦100%	S	Excluded (element)	-	7704-34-9

The above concentration or concentration range are not product specification.
All percentages listed in the above concentration or concentration range are wt%, unless otherwise specified.

4. First aid measures

First aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
Get immediate medical advice/attention.

First-aid measures after skin contact : Remove/Take off immediately all contaminated clothing.
Gently wash with plenty of soap and water.
Get immediate medical advice/attention.

First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Get immediate medical advice/attention.

First-aid measures after ingestion	:	Rinse mouth. Get immediate medical advice/attention.

5. Fire fighting measures

Suitable extinguishing media	:	Water spray, Foam, Dry powder, Carbon dioxide, Sand.
Unsuitable extinguishing media	:	Do not use a heavy water stream.
Fire hazard	:	Flammable solid.
Hazardous decomposition products in case of fire	:	In case of fire, product may produce irritative or toxic fumes/gases.
Firefighting instructions	:	If ignited, for the initial fire-fighting, cut off combustion sources, extinguish fire at a stroke using appropriate fire-extinguishers. In the case of peripheral fire, quickly remove movable containers to safe places. If unable to be moved containers, sprinkle water to containers and surrounding equipment, etc. to cool. Even after extinguishing fire, thoroughly cool containers by using plenty of water.
Protection during firefighting	:	Wear appropriate fire-resistant clothing including self contained-compressed air breathing apparatus.

6. Accidental release measures

Personal Precautions, Protective Equipment and Emergency Procedures

General measures	:	Before entering, ventilate the area. Do not let unauthorized persons come close to the area. Immediately place the leakage area in isolation, with taking proper distances for all directions. Wear appropriate personal protective devices to prevent inhalation and contact with eye, skin, and clothing, and never attempt to work on the lee.

Environmental precautions

Environmental precautions	:	Avoid release to the environment. Prevent entry to sewers and public waters.

Methods and Equipment for Containment and Cleaning up

Methods for cleaning up	:	Take care not to generate dust, sweep it up as much as possible, collect it in an empty container that can be sealed, and move it to a safe place. Wash out the spilled area with large amounts of water.

7. Handling and storage

Handling

Technical measures	:	Work with appropriate personal protective equipment to prevent inhalation or contact to eyes, skin, and clothing. Handle with care to prevent leakage, overflowing, or scattering, minimize generation of mist or vapor, and thoroughly ventilate.
Precautions for safe handling	:	Do not eat, drink or smoke when using this product. Thoroughly wash your hands and gargle after handling. Ensure good ventilation of the work station. Do not contact, breathe or swallow. Take precautionary measures against static discharge. Use explosion-proof equipment.
Prevents handling of incompatible substances or mixtures	:	Avoid prolonged or repeated exposure.

Storage

Storage conditions	:	Store locked up. Store in a well-ventilated place, away from direct sunlight. Keep container tightly closed and keep away from fire and heat sources.
Material used in packaging/containers	:	Airtight container.
Technical measures	:	Comply with applicable regulations.

Storage temperature : Cool and dark place

8. Exposure controls / Personal protection equipment

Appropriate engineering controls : Cover up tightly the generation source at the handling place or install local exhaust equipment or overall ventilation equipment. Install safety showers and eye-fountains near a handling place. Clearly indicate the location.

Protective equipment

Respiratory protection : Dustproof mask

Hand protection : Impervious protective gloves

Eye protection : Protective glasses (general glasses, glasses with side-shields, goggles)

Skin and body protection : Impervious aprons, Impervious work clothing, Impervious long boots

9. Physical and chemical properties

Physical state	:	Solid
Appearance	:	Powder
Color	:	pale yellow
Odor	:	Odorless
pH	:	No data available
Melting point	:	112.8℃(orthorhombic), 119.0℃(monoclinic)
Freezing point	:	No data available
Boiling point	:	444.7 °C
Flash point	:	207 °C (seta closed cup)
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability	:	No data available
Vapor pressure	:	No data available
Relative density	:	No data available
Density	:	2.07 g/cm³
Relative gas density	:	No data available
Solubility	:	Insoluble in water. Soluble in carbon disulfide.
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Explosive limits (vol %)	:	No data available
Viscosity, kinematic	:	No data available
Particle characteristics	:	No data available

10. Stability and reactivity

Reactivity	:	No data available
Chemical stability	:	Stable under normal handling conditions.
Possibility of hazardous reactions	:	Reacts violently with oxidizing agents causing fire and explosion hazard.
Conditions to avoid	:	Sunlight, heat. Ignition sources such as sparks, flames and static electricity. Contact with oxidizing agents.
Incompatible materials	:	Oxidizing agents
Hazardous decomposition products	:	Sulfur oxides

11. Toxicological information

The information in this section is based on the "GHS Classification Results" by NITE.

Sulfur	
Acute toxicity (oral)	No classification
Acute toxicity (dermal)	No classification
Acute toxicity (gas)	No classification
Acute toxicity (vapour)	classification not possible
Acute toxicity (inhalation:dust/mist)	No classification
Skin corrosion/irritation	No classification
Serious eye damage/irritation	No classification

Sulfur	
Respiratory sensitization	classification not possible
Skin sensitization	classification not possible
Germ cell mutagenicity	classification not possible
Carcinogenicity	classification not possible
Reproductive toxicity	classification not possible
STOT-single exposure	Category 1
STOT-repeated exposure	Category 2
Aspiration hazard	classification not possible

12. Ecological information

The information in this section is based on the "GHS Classification Results" by NITE.

Sulfur	
Hazardous to Aquatic Environment - Acute Hazard	No classification
Hazardous to Aquatic Environment - Chronic Hazard	classification not possible
Persistence and degradability	No data available
Bioaccumulative potential	No data available
Mobility in soil	No data available
Hazardous to the ozone layer	No data available

13. Disposal considerations

Ecology - waste materials : With the detail information of the waste, subcontract its disposal to a waste disposer authorized by a Prefectural Governor.

Contaminated container and packaging : Empty the packaging completely prior to disposal.

Empty containers should be taken for recycle, recovery or waste in accordance with local regulation.

14. Transport information

International Regulations

Transport by sea(IMDG)

UN-No. (IMDG) : 1350
Proper Shipping Name (IMDG) : SULPHUR
Packing group (IMDG) : III
Transport hazard class(es) (IMDG) : 4.1
Hazard labels (IMDG) : 4.1
Class (IMDG) : 4.1
Division (IMDG) : 4.1
Special provision (IMDG) : 242, 967
Limited quantities (IMDG) : 5 kg
Excepted quantities (IMDG) : E1
Packing instructions (IMDG) : P002, LP02
IBC packing instructions (IMDG) : IBC08
IBC special provisions (IMDG) : B3
Tank instructions (IMDG) : T1, BK2, BK3
Tank special provisions (IMDG) : TP33
Stowage category (IMDG) : A
Properties and observations (IMDG) : When involved in a fire, evolves toxic, very irritating and suffocating gas. The dust forms an explosive mixture with air which may be ignited by static electricity. Forms explosive mixtures with oxidizing substances. Corrosive to steel, in particular in the presence of moisture. The provisions of this Code should not apply to sulphur when it is formed to a specific shape (such as prills, granules, pellets, pastilles or flakes).
MFAG-No : 133

Air transport(IATA)

UN-No. (IATA) : 1350
Proper Shipping Name (IATA) : Sulphur
Packing group (IATA) : III

Transport hazard class(es) (IATA)	:	4.1
Hazard labels (IATA)	:	4.1
Class (IATA)	:	4.1
Division (IATA)	:	4.1
PCA Excepted quantities (IATA)	:	E1
PCA Limited quantities (IATA)	:	Y443
PCA limited quantity max net quantity (IATA)	:	10kg
PCA packing instructions (IATA)	:	446
PCA max net quantity (IATA)	:	25kg
CAO packing instructions (IATA)	:	449
CAO max net quantity (IATA)	:	100kg
Special provision (IATA)	:	A105, A803
ERG code (IATA)	:	3L
Marine pollutant	:	Not applicable

Regulations in Japan

Regulatory information by sea	:	Conform to the provisions of the Ship Safety Law.
Regulatory information by air	:	Conform to the provisions of the Civil Aeronautics Law.
MFAG-No	:	133
Special transport precautions	:	When transporting, load containers so that they do not tip over, damage, drop or collapse. Make sure there is no leak in containers.

15. Regulatory information

National law

Industrial Safety and Health Law	:	【Date of enforcement: April 1, 2025】 Dangerous or Harmful Substances for Labeling of Chemical Name etc. (Act Art.57 Para.1, Enforcement Order, Art.18) Dangerous or Harmful Substances for Notification of Chemical Name etc. on SDS (Act, Art.57-2, Enforcement Order, Art.18-2) Sulfur
Japanese Poisonous and Deleterious Substances Control Law	:	Not applicable
Fire Service Law	:	Group 2 - Flammable solids - Sulfur (Law Art.2 Para.7, Attached Table 1, Group 2)
Foreign Exchange and Foreign Trade Control Act	:	Export Trade Control Ordinance appendix 1-16
Ship Safety Act	:	Combustible materials/Combustible material(Dangerous Goods Notification Schedule first second and third Article Dangerous Goods Regulations)
Civil Aeronautics Law	:	Combustible materials/Combustible material(Hazardous materials notice Appended Table 1 Article 194 of the Enforcement Regulations)
Port Regulation Law	:	Hazardous materials/Flammable substance (Combustible material) (Article 21, Paragraph 2 of Law, Article 12 rule, notice appendix that defines the type of dangerous goods)
Road Act	:	Restriction for Vehicle Traffic (Enforcement Order Art.19-13, Publication of Japan Highway Pablic Corp.)
Japanese Pollutant Release and Transfer Register Law (PRTR Law)	:	Not applicable

16. Other information

Data sources	:	Handbook of 17524 Chemical Products, The Chemical Daily Co, Ltd. International Chemical Safety Cards. National Institute of Technology and Evaluation (NITE). 2020 Emergency Response Guidebook (ERG 2020).
Other information	:	The SDS is copyrighted material of Hayashi Pure Chemical Ind, Ltd. This Safety Data Sheet is intended to be provided for business operators who handle chemical substance products of the relevant product and is not intended to assure safety in any way. The Safety Data Sheet does not verify all the information on the applicable chemical substance in the present time. With the recognition in that unknown danger constantly exists in the relevant chemical substance, the product shall be used in the principle of self-responsibility of the user with the highest priority to safety from transport and unpacking to disposal. When the relevant chemical substance is used, the user

him/herself shall collect safety information and shall investigate laws and regulations at the place, organizations, countries, etc. where the substance is actually used and give the highest priority to them. The Company shall take no responsibility for investigating state and local regulations and the user shall handle this problem on his/her own responsibility. In the event that SDS in Japanese and SDS translated into other languages exist, the document described in Japanese is prior to all other documents whether or not there is any difference in contents, and documents in other languages shall be references.