Safety Data Sheet

1. Chemical product and company identification

Product name : Phenol

SDS code : B4-08

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	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	classification not possible
	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
	Desensitized explosives	No classification
Health hazards	Acute toxicity (oral)	Category 4
	Acute toxicity (dermal)	Category 3
	Acute toxicity (inhalation:gas)	No classification
	Acute toxicity (inhalation:vapors)	classification not possible
	Acute toxicity (inhalation:dust/mist)	classification not possible
	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
	Respiratory sensitization	classification not possible
	Skin sensitization	No classification
	Germ cell mutagenicity	Category 2
	Carcinogenicity	No classification
	Reproductive toxicity	Category 1B
	Specific target organ toxicity (single exposure)	Category 1 (nervous system, respiratory system, cardiovascular system, kidneys)

	Specific target organ toxicity (repeated exposure)	Category 1 (central nervous system, cardiovascular system, blood system, liver, kidneys)
	Aspiration hazard	classification not possible
Environmental hazards	Hazardous to the aquatic environment, short-term (acute)	Category 2
	Hazardous to the aquatic environment, long-term (chronic)	Category 2
	Hazardous to the ozone layer	classification not possible

Hazard pictograms (GHS JP)

GHS05 GHS06 GHS08 GHS09

Signal word (GHS JP) : Danger

Hazard statements (GHS JP) :
Harmful if swallowed (H302)
Toxic in contact with skin (H311)
Causes severe skin burns and eye damage (H314)
Suspected of causing genetic defects (H341)
May damage fertility or the unborn child (H360)
Causes damage to organs (nervous system, respiratory system, cardiovascular system, kidneys) (H370)
Causes damage to organs (central nervous system, cardiovascular system, blood system, liver, kidneys) through prolonged or repeated exposure (H372)
Toxic to aquatic life with long lasting effects (H411)

Precautionary statements (GHS JP)

Prevention :
Obtain special instructions before use. (P201)
Do not handle until all safety precautions have been read and understood. (P202)
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)
Avoid release to the environment. (P273)
Wear protective gloves/protective clothing/eye protection/face protection. (P280)

Response :
IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. (P301+P312)
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. (P301+P330+P331)
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water . (P303+P361+P353)
IF INHALED: Remove person to fresh air and keep comfortable for breathing (P304+P340)
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. (P305+P351+P338)
IF exposed or concerned: Call a POISON CENTER or doctor. (P308+P311)
Immediately call a POISON CENTER or doctor. (P310)
Get medical advice/attention if you feel unwell. (P314)
Take off immediately all contaminated clothing and wash it before reuse. (P361+P364)
Collect spillage. (P391)

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

Synonyms : Carbolic acid, Carbol

Name	Concentration or Concentration range	Formula	Kanpo number		CAS RN
			CSCL no	ISHL no	
Phenol	≧98.0%、≦100%	C6H6O	(3)-481	Existing Chemical Substance	108-95-2

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 : Do NOT induce vomiting.
Rinse mouth.
Get immediate medical advice/attention.

5. Fire fighting measures

Suitable extinguishing media : Water spray, Alcohol-resistant foam, Dry powder, Carbon dioxide, Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

Explosion hazard : May induce explosion of containers by heating.

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.
Avoid (reject) fire-fighting water to enter environment.
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.
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	:	Light shielding airtight container.
Technical measures	:	Comply with applicable regulations.
Storage temperature	:	Cool and dark place

8. Exposure controls / Personal protection equipment

Exposure limit values	
Phenol	
Exposure limits (JSOH)	5ppm(19mg/m3)(skin)
Exposure limits (ACGIH)	TWA 5 ppm,STEL - (Skin)

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 : Gas mask for organic gases, Dustproof mask

Hand protection : Protective gloves

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

Skin and body protection : Protective clothing, Protective boots, Protective apron

9. Physical and chemical properties

Physical state	:	Solid
Appearance	:	Crystals ～ Mass
Color	:	white ～ palecrimson
Odor	:	characteristic odor
pH	:	Aqueous solution shows a weakly acidic.
Melting point	:	≥ 39.0 °C
Freezing point	:	No data available
Boiling point	:	182 °C
Flash point	:	79.4 °C (tag closed cup)
Auto-ignition temperature	:	715 °C
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	No data available
Vapor pressure	:	26.6 Pa（20℃）
Relative density	:	No data available

Density	:	1.07 g/cm³（20℃）
Relative gas density	:	3.2 (air=1)
Solubility	:	Soluble in many organic solvents. Soluble in alkaline solution. Water: 6 %（20℃）
Partition coefficient n-octanol/water (Log Pow)	:	1.46
Explosive limits (vol %)	:	1.3 – 9.5 vol % (in air)
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. The redness gradually increases by air and light.
Possibility of hazardous reactions	:	Reacts with oxidizing agents to pose a risk of fire and explosion. When it reacts with calcium hypochlorite, it generates heat and toxic vapor. Under certain conditions, contact with aluminium chloride may cause a violent explosion. A violent condensation reaction occurs with acetaldehyde. There is a risk of exothermic polymerization reaction with butadiene. Corrodes rubber, aluminium and its compounds, zinc, lead, plated iron and polyethylene.
Conditions to avoid	:	Sunlight, moisture, heat. Ignition sources such as spark, flame and static electricity. Contact with oxidizing agents, calcium hypochlorite, aluminium chloride, acetaldehyde and butadiene.
Incompatible materials	:	Oxidizing agents, Calcium hypochlorite, Aluminium chloride, Acetaldehyde, Butadiene
Hazardous decomposition products	:	No data available

11. Toxicological information

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

Phenol	
Acute toxicity (oral)	Category 4
Acute toxicity (dermal)	Category 3
Acute toxicity (gas)	No classification
Acute toxicity (vapour)	classification not possible
Acute toxicity (inhalation:dust/mist)	classification not possible
Skin corrosion/irritation	Category 1
Serious eye damage/irritation	Category 1
Respiratory sensitization	classification not possible
Skin sensitization	No classification
Germ cell mutagenicity	Category 2
Carcinogenicity	No classification
Reproductive toxicity	Category 1B
STOT-single exposure	Category 1
STOT-repeated exposure	Category 1
Aspiration hazard	classification not possible

12. Ecological information

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

Phenol	
Hazardous to Aquatic Environment - Acute Hazard	Category 2
Hazardous to Aquatic Environment - Chronic Hazard	Category 2
Persistence and degradability	No data available
Bioaccumulative potential	No data available

Phenol	
Mobility in soil	No data available
Hazardous to the ozone layer	classification not possible

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) : 1671
Proper Shipping Name (IMDG) : PHENOL, SOLID
Packing group (IMDG) : II
Transport hazard class(es) (IMDG) : 6.1
Hazard labels (IMDG) : 6.1
Class (IMDG) : 6.1
Division (IMDG) : 6.1
Special provision (IMDG) : 279
Packing instructions (IMDG) : P002
IBC packing instructions (IMDG) : IBC08
IBC special provisions (IMDG) : B21, B4
Tank instructions (IMDG) : T3
Tank special provisions (IMDG) : TP33
Stowage category (IMDG) : A
Properties and observations (IMDG) : Colourless or white crystals or crystallized mass. Melting point: 43°C (pure product). Soluble in water. Toxic if swallowed, by skin contact or by vapour inhalation. Rapidly absorbed through the skin.
MFAG-No : 153

Air transport(IATA)

UN-No. (IATA) : 1671
Proper Shipping Name (IATA) : Phenol, solid
Packing group (IATA) : II
Transport hazard class(es) (IATA) : 6.1
Hazard labels (IATA) : 6.1
Class (IATA) : 6.1
Division (IATA) : 6.1
PCA Excepted quantities (IATA) : E4
PCA Limited quantities (IATA) : Y644
PCA limited quantity max net quantity (IATA) : 1kg
PCA packing instructions (IATA) : 669
PCA max net quantity (IATA) : 25kg
CAO packing instructions (IATA) : 676
CAO max net quantity (IATA) : 100kg
Special provision (IATA) : A113
ERG code (IATA) : 6L

Marine pollutant : 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 : 153
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

Chemical Substances Control Law	:	Priority Assessment Chemical Substances (Law Article 2, Para.5)
Industrial Safety and Health Law	:	Group 3 Specified Chemical Substance, (Ordinance on Prevention of Hazards Due to Specified Chemical Substances Art.2 Para.1, Item 6) Harmful Substances Whose Names Are to be Indicated on the Label (Law Art.57, Para.1, Enforcement Order Art.18 Item 1, Item 2, Attached Table No.9) Notifiable Substances (Law Art.57-2, Enforcement Order Art.18-2 Item 1, Item 2, Attached Table No.9) Phenol (Ordinance number : 474) Corrosive Liquids (Ordinance on Industrial Safety and Health Law Art. 326)
Japanese Poisonous and Deleterious Substances Control Law	:	Deleterious Substances (Law Art.2, Attached Table 2) Phenol
Water Pollution Prevention Law	:	Designated Chemical Substances (Law Article 2, Paragraph 4, Enforcement Order Article 3-3) Living Environment Pollution Itemes (Act, Art.2, Enforcement Oder, Art.3, Ministerial Ordinance to Provide for Effluent Standards, Art.1, Appended Table 2)
Fire Service Law	:	Designated Combustible Substances - Combustible solids (Law Art.9-4, Cabinet Order on Hazardous Materials Art Art.1-12, Attached Table No.4)
Air Pollution Control Law	:	Specified substances (Article 17, Paragraph 1 of the Law, Article 10 of the Enforcement Ordinance) Hazardous Air Pollutants (Central Environment Council Report No. 9) Volatile Organic Compounds (Law Art.2 Para.4) (MOE Official Notice to Prefectures)
Law Relating to Prevention of Marine Pollution and Maritime Disasters	:	Noxious Liquid Substances - Category Y (Law Art.3(3), Enforcement Order, Art.1-2, Attached Table No.1 Item 2)
Foreign Exchange and Foreign Trade Control Act	:	Export Trade Control Ordinance appendix 1-16
Ship Safety Act	:	Toxic and infectious substances/Toxic substances (Dangerous Goods Notification Schedule first second and third Article Dangerous Goods Regulations)
Civil Aeronautics Law	:	Toxic and infectious substances/Toxic substances (Hazardous materials notice Appended Table 1 Article 194 of the Enforcement Regulations)
Port Regulation Law	:	Toxic and infectious substances/Toxic substances (Article 21, Paragraph 2 of Law, Article 12 rule, notice attached table that defines the type of dangerous goods)
Road Act	:	Restriction for Vehicle Traffic (Enforcement Order Art.19-13, Publication of Japan Highway Pablic Corp.)
Waterworks Law	:	Hazardous Substances (Act Article 4 paragraph 2), Standard for Water Quality (Ministry Order No.101 of 2003)
Sewerage Law	:	Substances for Water Quality Standard (Act Art.12-2 Para.2, Enforcement Order Art.9-4)
Japanese Pollutant Release and Transfer Register Law (PRTR Law)	:	Class 1 Designated Chemical Substances (Act Art.2 para. 2, Enforcement Oder Art.1 Appended Table No.1) Phenol (100%) 【After amendment of April 2023】 Class 1 Designated Chemical Substances (Act, Art.2, Para.2, Enforcement Order, Art.1 Appended Table 1) Phenol (100%)
Labor Standards Act	:	Chemical Substances Causing Occupational Illnesses (Act Art.75, Para.2, Ordinance Attached Table 1-2, Item 4-1, MHLW Nortification No.36 of 1978)

16. Other information

Data sources	:	Handbook of 17423 Chemical Products, The Chemical Daily Co, Ltd. International Chemical Safety Cards. National Institute of Technology and Evaluation (NITE). 2020 Emergency Response Guidebook (ERG 2020).

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