Date of issue for the 1st edition : 24/Sep/2013
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Safety Data Sheet

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

Product identifier:

Product name: Hydroquinone

Reference number(SDS):59620jis_E-3

Product type:

Reagent

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

HEALTH HAZARDS

Acute toxicity (Oral): Category 4
Serious eye damage/eye irritation: Category 1
Skin sensitization: Category 1
Germ cell mutagenicity: Category 1B
Carcinogenicity: Category 2
Specific target organ toxicity - single exposure: Category 1(central nervous system)
Specific target organ toxicity - repeated exposure: Category 2(kidney, liver)

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

H302-Harmful if swallowed
H318-Causes serious eye damage
H317-May cause an allergic skin reaction
H340-May cause genetic defects
H351-Suspected of causing cancer
H370-Causes damage to organs
H373-May cause damage to organs through prolonged or repeated exposure
H400-Very toxic to aquatic life
H410-Very toxic to aquatic life with long lasting effects

PRECAUTIONARY STATEMENT

Prevention

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.
Avoid release to the environment.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash contaminated parts thoroughly after handling.
Wear protective gloves.
Contaminated work clothing should not be allowed out of the workplace.
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.
IF exposed or concerned: Get medical advice/attention.
Immediately call a POISON CENTER/doctor/physician.
IF exposed or concerned: Call a POISON CENTER/doctor/physician.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash 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/doctor/physician if you feel unwell.

Storage

Store locked up.

Disposal

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

3. Composition/information on ingredients

Mixture/Substance selection:

Substance

Common name, synonyms: 1,4-Benzendil

Ingredient name:Hydroquinone
Content (%):99.0 <
Chemical formula:C6H6O2
Chemicals No, Japan:3-543
CAS No.:123-31-9
MW:110.11
ECNO:204-617-8

Note : The figures shown above are not the specifications of the product.

4. First-aid measures

Descriptions of first-aid measures

General measures

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

IF INHALED

Remove person to fresh air and keep comfortable for breathing.
Give artificial respiration if victim is not breathing.
Administer oxygen if breathing is difficult.
Call a POISON CENTER/doctor/physician if you feel unwell.

IF ON SKIN (or hair)

Take off immediately all contaminated clothing. Rinse skin with water or shower.

Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Remove and isolate contaminated clothing and shoes.

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/doctor/physician if you feel unwell.
Induce vomiting (ONLY IN CONSCIOUS PERSONS!).

Most important symptoms and effects, both acute and delayed

(Symptoms when inhalation or ingestion)

Cough. Laboured breathing. Dizziness. Headache. Nausea. Shortness of breath. Convulsions. Vomiting. Ringing in the ears.

(Symptoms when skin and/or eye contact)

Conjunctival redness of the eyes
. Pain of the eyes. Blurred vision. Redness of the skin.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

In case of fire, use water mist, foam, dry powder, CO2 to extinguish.

Unsuitable extinguishing media

Unsuitable extinguishing media data is not available.

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.

Special protective equipment and precautions for fire-fighters

Wear fire resistant or flame 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 until material pick up is complete.
Wear proper protective equipment.
Do not touch or walk through spilled material.

Environmental precautions

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

Methods and materials for containment and cleaning up

Take up with sand or other noncombustible absorbent material and place into containers for later disposal.
With clean shovel place material into clean, dry container and cover loosely; move containers from spill area.

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/gas/mist/vapors/spray.

(Protective measures against fire and explosion)

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

Safety Measures

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

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

Use personal protective equipment as required.

When using do not eat, drink or smoke.

Any incompatibilities

Strong bases, Strong oxidizing agents, Sodium hydroxide should not be mixed with the chemicals.

Advice on general occupational hygiene

Wash contaminated parts thoroughly after handling.

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

Contaminated work clothing should not be allowed out of the workplace.

Take off contaminated clothing and wash it before reuse.

Storage

Conditions for safe storage

Store in a well-ventilated place. Keep container tightly closed.

Keep cool. Protect from sunlight.

Store in accordance with local/national regulation.

Store locked up.

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

Specific end use(s)

See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

8. Exposure controls/personal protection

Control parameters

Control value in MHLW is not available.

Adopted value

Adopted value in JSOH is not available.

ACGIH(2014) TWA: 1mg/m3 (Eye irr; eye dam)

Notation･･･DSEN

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. Recommended material(s): neoprene, nitrile, butyl rubber, viton, PVC, impermeable or chemical resistant rubber

Consult with your glove and/or personnel equipment manufacturer for selection of appropriate compatible materials.

Eye protection

Wear chemical safety goggle.

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: Crystals

Color: Colorless, White, Light-gray or Light-tan

Odor: None

Odor threshold data is not available.

Melting point/Freezing point: 172℃

Boiling point or initial boiling point: 287℃

Boiling range data is not available.

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

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

Flash point: (c.c.)165℃

Auto-ignition temperature: 515℃

Decomposition temperature: >170℃

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

pH data is not available.

Dynamic viscosity data is not available.

Kinematic viscosity data is not available.

Solubility:

Solubility in water: 5.9 g/100 ml (15℃)

Solubility in solvent: Freely soluble in ethanol and diethyl ether.

n-Octanol/water partition coefficient: log Pow0.59

Vapor pressure: 0.12 Pa （20℃）

Vapor density data is not available.

VOC data is not available.

Evaporation rate data is not available.

Density and/or relative density: 1.330g/cm3(20℃)

Relative vapor density (Air=1): 3.8

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

Critical temperature: 549℃

Particle characteristics data is not available.

10. Stability and Reactivity

Reactivity

Runaway polymerization will not occur.

Chemical stability

Stable under normal storage/handling conditions.

The product discolored by air.

Possibility of hazardous reactions

May form explosive dust-air mixtures.

Reacts violently with sodium hydroxide.

Conditions to avoid

Contact with incompatible materials.

Open flames. Heat. Light. Air.

Incompatible materials

Strong bases, Strong oxidizing agents, Sodium hydroxide

Hazardous decomposition products

Carbon oxides

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[GHS Cat. Japan, base data]

rat LD50=390mg/kg (SIDS, Access on Apr. 2012)

Labor standard law, Japan; Toxic

Hydroquinone

Irritant properties

Skin corrosion/irritation

[GHS Cat. Japan, base data]

guinea pig : No skin reaction after 24 hours of application (SIDS, Access on Apr. 2012)

rabbit : No irritation (IUCLID, 2001)

Serious eye damage/irritation

[GHS Cat. Japan, base data]

rabbit : corrosive damage (DFGMAK-Doc. 10, 1998)

Sensitization

Skin sensitization

[GHS Cat. Japan, base data]

cat. 1; EHC 157, 1994

Germ cell mutagenicity

[GHS Cat. Japan, base data]

cat. 1B; EHC 157, 1994

Reverse-mutation assay in bacteria (Ames test) :Negative(NTP DB, 1979)

Mutagen [MHLW_J Notice]

Hydroquinone

Chromosome aberration test :Positive

(MHLW in Japan_Mutagenicity Test Results for Chemical Substances)

Carcinogenicity

[GHS Cat. Japan, base data]

cat.2; ACGIH A3 (ACGIH, 2008 et al.)

[IARC]

Group 3 : Not classifiable as to its carcinogenicity to humans

[ACGIH]

A3(2014) : Confirmed Animal Carcinogen with Unknown Relevance to Humans

[EU]

Category 2; Substances suspected human carcinogens

Reproductive toxicity data is not available.

STOT
STOT-single exposure
[cat.1]
[GHS Cat. Japan, base data]
central nervous system (EHC 157, 1994; DFGMAK-Doc. 10, 1998)
STOT-repeated exposure
[cat.2]
[GHS Cat. Japan, base data]
kidney; liver (NTP TR 366, 1989)
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]
Fish (Pimephales promelas) LC50=0.044mg/L/96hr (NITE Initial Risk Assessment Report, 2008)
Hazardous to the aquatic environment (Long-term)
[GHS Cat. Japan, base data]
Crustacea (Daphnia magna) NOEC=0.003mg/L/21days(MOE Environmental Risk Assessment Vol. 10, 2012)
Water solubility
5.9 g/100 ml (15℃) (ICSC, 2001)
Persistence and degradability
BOD_Degradation : 70% (METI existing chemical safety inspections)
Bioaccumulative potential
log Pow=0.59 (PHYSPROP DB, 2009)
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.
Dispose of contents/container in accordance with local/national regulation.

14. Transport Information

UN No., UN CLASS
UN No. or ID No.: 3077
UN Proper Shipping Name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Class or division (Transport hazard class) : 9
Packing group : III
ERG GUIDE No.: 171
IMDG Code (International Maritime Dangerous Goods Regulations)
UN No.: 3077
Proper Shipping Name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Class or division : 9

Packing group : III

IATA Dangerous Goods Regulations

UN No.: 3077

Proper Shipping Name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

Class or division : 9

Hazard labels : Miscellaneous & Environmentally hazardous

Packing group : III

Environmental hazards

MARPOL Annex III - Prevention of pollution by harmful substances

Marine pollutants (yes/no) : yes

MARPOL Annex V - Prevention of pollution by garbage discharge

Germ cell mutagenicity: cat.1, 1A, 1B

Hydroquinone

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

Hydroquinone

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

Hydroquinone

Maritime transport in bulk according to IMO instruments

Not applicable to Maritime transport in bulk according to IMO instruments

15. Regulatory Information

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

Chemicals listed in TSCA Inventory

Hydroquinone

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).

Chemical safety assessment

Advice on safe handling for this product can be found in sections 7 and 8 of this SDS.

16. Other information

GHS classification and labelling

H302-Acute Tox. 4: H302 Harmful if swallowed
H318-Eye Dam. 1: H318 Causes serious eye damage
H317-Skin Sens. 1: H317 May cause an allergic skin reaction
H340-Muta. 1B: H340 May cause genetic defects
H351-Carc. 2: H351 Suspected of causing cancer
H370-STOT SE 1: H370 Causes damage to organs
H373-STOT RE 2: H373 May cause damage to organs through prolonged or repeated exposure
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, UN
Recommendations on the TRANSPORT OF DANGEROUS GOODS 21th edit., 2019 UN
IMDG Code, 2018 Edition (Incorporating Amendment 39-18)
IATA Dangerous Goods Regulations (62nd Edition) 2021
2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2021 TLVs and BEIs. (ACGIH)
JIS Z 7252 : 2019
JIS Z 7253 : 2019
2021 Recommendation on TLVs (JSOH)
Supplier's data/information
Chemicals safety data management system "GHS Assistant" Version 4.16 (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)

Definitions and Abbreviations

SDS (Safety Data Sheet)
LD50 (Lethal Dose, 50%)
LC50 (Lethal Concentration, 50%)
IARC (International Agency for Research on Cancer)
ACGIH (American Conference of Governmental Industrial Hygienists)
EPA (US Environmental Protection Agency)
NTP (US National Toxicology Program)
JSOH (Japan Society for Occupational Health)
EU (European Union)
EC50 (Effective Concentration, 50%)
NOEC (No Observed Effect Concentration)
BOD (Biochemical Oxygen Demand)
COD (Chemical Oxygen Demand)
BCF (Bioconcentration Factor)
anh (anhydride)

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 2020).