Chemical Safety Data Sheet MSDS / SDS

Disodium peroxide SDS

Revision Date:2024-04-25 Revision Number:1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

Product name: Disodium peroxide

CAS: 1313-60-6

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: For R&D use only. Not for medicinal, household or other use.

Uses advised against: none

Company Identification

Company: Chemicalbook.in

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SECTION 2: Hazards identification

Classification of the substance or mixture

Oxidizing solids, Category 1
Skin corrosion, Sub-category 1A

GHS label elements, including precautionary statements

Pictogram(s)

Signal word Danger

Hazard statement(s)

H271 May cause fire or explosion; strong oxidizer
H314 Causes severe skin burns and eye damage

Precautionary statement(s)

Prevention

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P220 Keep away from clothing and other combustible materials.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
P283 Wear fire resistant or flame retardant clothing.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P264 Wash ... thoroughly after handling.

Response

P306+P360 IF ON CLOTHING: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
P371+P380+P375 In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.
P370+P378 In case of fire: Use ... to extinguish.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P363 Wash contaminated clothing before reuse.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P316 Get emergency medical help immediately.
P321 Specific treatment (see ... on this label).
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage

P420 Store separately.
P405 Store locked up.

Disposal

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in classification

no data available

SECTION 3: Composition/information on ingredients

Substance

Chemical name:	Disodium peroxide
Common names and synonyms:	Disodium peroxide
CAS number:	1313-60-6
EC number:	215-209-4
Concentration:	100%

SECTION 4: First aid measures

Description of necessary first-aid measures

If inhaled

Fresh air, rest. Half-upright position. Artificial respiration may be needed. Refer for medical attention.

Following skin contact

First rinse with plenty of water for at least 15 minutes, then remove contaminated clothes and rinse again. Refer for medical attention .

Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

Following ingestion

Rinse mouth. Do NOT induce vomiting. Refer for medical attention .

Most important symptoms/effects, acute and delayed

Excerpt from ERG Guide 144 [Oxidizers (Water-Reactive)]: TOXIC; inhalation or contact with vapor, substance, or decomposition products may cause severe injury or death. Fire will produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may cause pollution. (ERG, 2016)

Indication of immediate medical attention and special treatment needed, if necessary

Basic treatment: Establish a patent airway. Suction if necessary. Watch for signs of respiratory insufficiency and assist ventilations if necessary. Administer oxygen by nonrebreather mask at 10 to 15 L/min. Monitor for pulmonary edema and treat if necessary . Monitor for shock and treat if necessary . For eye contamination, flush eyes immediately with water. Irrigate each eye continuously with normal saline during transport . Do not use emetics. For ingestion, rinse mouth and administer 5 ml/kg up to 200 ml of water for dilution if the patient can swallow, has a strong gag reflex, and does not drool . Do not attempt to neutralize because of exothermic reaction. Cover skin burns with dry, sterile dressings after decontamination . Oxidizers

SECTION 5: Firefighting measures

Suitable extinguishing media

If material on fire or involved in fire: use dry chemical, graphite, or dry earth. Use water only if flooding quantities are available. Apply water from as far a distance as possible.

Specific hazards arising from the chemical

Excerpt from ERG Guide 144 [Oxidizers (Water-Reactive)]: May ignite combustibles (wood, paper, oil, clothing, etc.). React vigorously and/or explosively with water. Produce toxic and/or corrosive substances on contact with water. Flammable/toxic gases may accumulate in tanks and hopper cars. Some may produce flammable hydrogen gas upon contact with metals. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2016)

Special protective actions for fire-fighters

NO water. Use dry powder. In case of fire: keep drums, etc., cool by spraying with water. NO direct contact with water.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal protection: complete protective clothing including self-contained breathing apparatus. Do NOT absorb in saw-dust or other combustible absorbents. Do NOT let this chemical enter the environment. Sweep spilled substance into covered containers.

Then store and dispose of according to local regulations.

Environmental precautions

Personal protection: complete protective clothing including self-contained breathing apparatus. Do NOT absorb in saw-dust or other combustible absorbents. Do NOT let this chemical enter the environment. Sweep spilled substance into covered containers. Then store and dispose of according to local regulations.

Methods and materials for containment and cleaning up

Dilute and drain into the sewer with abundant water. Hydrogen peroxide

SECTION 7: Handling and storage

Precautions for safe handling

NO contact with water, combustible substances or reducing agents. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

Conditions for safe storage, including any incompatibilities

Store in an area without drain or sewer access. Separated from combustible substances, reducing agents, acids and powdered metals. Dry.KEEP TIGHTLY CLOSED & PROTECTED FROM CONTACT WITH ORGANIC OR OXIDIZABLE SUBSTANCES.

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational Exposure limit values

no data available

Biological limit values

no data available

Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and

the risk-elimination area.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Wear face shield or eye protection in combination with breathing protection if powder.

Skin protection

Protective gloves. Protective clothing.

Respiratory protection

Use local exhaust or breathing protection.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state:	Sodium peroxide is a yellow-white to yellow granular solid. Mixtures with combustible material are readily ignited by friction, heat, or contact with moisture. May vigorously decompose under prolonged exposure to heat, causing the rupture of the containers.
Colour:	Yellowish-white, granular powder
Odour:	no data available
Melting point/freezing point:	460°C (dec.)(lit.)
Boiling point or initial boiling point and boiling range:	657°C
Flammability:	Not combustible but enhances combustion of other substances.
Lower and upper explosion limit/flammability limit:	no data available

Flash point:	657°C
Auto-ignition temperature:	no data available
Decomposition temperature:	460°C
pH:	no data available
Kinematic viscosity:	no data available
Solubility:	SOLUBLE IN ACID; INSOLUBLE IN ALKALI
Partition coefficient n-octanol/water:	no data available
Vapour pressure:	no data available
Density and/or relative density:	2.805
Relative vapour density:	no data available
Particle characteristics:	no data available

SECTION 10: Stability and reactivity

Reactivity

Reacts with water. This generates fire hazard. Reacts with organic compounds and powdered metals. This generates explosion hazard. The substance is a strong oxidant. It reacts violently with combustible and reducing materials.

Chemical stability

Absorbs water & carbon dioxide from air.

Possibility of hazardous reactions

MIXTURES OF SODIUM PEROXIDE & COMBUSTIBLE, ORGANIC OR READILY OXIDIZABLE SUBSTANCES...IGNITE EASILY BY FRICTION OR ON CONTACT WITH A SMALL AMT OF WATER.SODIUM PEROXIDE reacts violently with reducing agents, combustible materials and

light metals. Reacts exothermically and rapidly or even explosively with water to form a strong base (NaOH) and oxygen (O2) [Handling Chemicals Safely 1980 p. 854]. A mixture with ammonium persulfate can explode if subjected to friction (crushing in a mortar), if heated, or if a stream of gaseous carbon dioxide is passed over it [Mellor 10:464 1946-47]. Reacts very vigorously with gaseous hydrogen sulfide; even in the absence of air, the reaction may be accompanied by flame [Mellor 10:132 1946-47]. An explosion results when gaseous carbon dioxide is passed over a mixture of sodium peroxide with powdered magnesium [Mellor 2:490 1946-47] . Mixtures with acetic acid or acetic anhydride can explode if not kept cold [Von Schwartz 1918 p. 321]. Spontaneously flammable in contact with aniline, benzene, diethyl ether, or organic materials such as paper and wood. Mixtures with charcoal, glycerine, certain oils, and phosphorus burn or explode [Mellor 2:490 1946-47]. A mixture with calcium carbide (powdered) burst into flame when exposed to damp air and exploded when heated [Mellor 2:490 1946-47]. Decomposes, often violently in the presence of catalytic quantities of manganese dioxide [Mellor 2 Supp. 2:635 1961]. Mixing with sulfur monochloride leads to a violent reaction [Mellor 2 Supp. 2:634 1961]. Can react with and cause the ignition of fuels.

Conditions to avoid

no data available

Incompatible materials

Reacts violently with water, org matter, charcoal, glycerol, diethyl ether, or phosphorus.

Hazardous decomposition products

no data available

SECTION 11: Toxicological information

Acute toxicity

Oral: no data available

Inhalation: no data available

Dermal: no data available

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available

STOT-single exposure

The substance is very corrosive to the eyes, skin and respiratory tract. Corrosive on ingestion. Inhalation may cause lung oedema. See Notes.

STOT-repeated exposure

no data available

Aspiration hazard

A harmful concentration of airborne particles can be reached quickly when dispersed.

SECTION 12: Ecological information

Toxicity

Toxicity to fish: no data available

Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

Other adverse effects

no data available

SECTION 13: Disposal considerations

Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

SECTION 14: Transport information

UN Number

ADR/RID: UN1504 (For reference only, please check.)
IMDG: UN1504 (For reference only, please check.)
IATA: UN1504 (For reference only, please check.)

UN Proper Shipping Name

ADR/RID: SODIUM PEROXIDE (For reference only, please check.)
IMDG: SODIUM PEROXIDE (For reference only, please check.)
IATA: SODIUM PEROXIDE (For reference only, please check.)

Transport hazard class(es)

ADR/RID: 5.1 (For reference only, please check.)
IMDG: 5.1 (For reference only, please check.)
IATA: 5.1 (For reference only, please check.)

Packing group, if applicable

ADR/RID: I (For reference only, please check.)
IMDG: I (For reference only, please check.)
IATA: I (For reference only, please check.)

Environmental hazards

ADR/RID: No
IMDG: No
IATA: No

Special precautions for user

no data available

Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

European Inventory of Existing Commercial Chemical Substances (EINECS)

Listed.

EC Inventory

Listed.

United States Toxic Substances Control Act (TSCA) Inventory

Listed.

China Catalog of Hazardous chemicals 2015

Listed.

New Zealand Inventory of Chemicals (NZIoC)

Listed.

(PICCS)

Listed.

Vietnam National Chemical Inventory

Listed.

IECSC)

Listed.

Korea Existing Chemicals List (KECL)

Listed.

SECTION 16: Other information

Abbreviations and acronyms

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

References

IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home

HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm

IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en

CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple

ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg

Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp

ECHA - European Chemicals Agency, website: https://echa.europa.eu/

Other Information

Rinse contaminated clothing with plenty of water because of fire hazard.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 is therefore essential.