Date of issue: 2020/07/07
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Safety Data Sheet

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

Product identifier:

Product name: Sodium perchlorate, anhydrous

SDS No. : 7242E-2

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

Research and Development

Details of the supplier of the safety data sheet

Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.
Address: 3-1, Honmachibashi, Chuo-ku, Osaka, JAPAN
Division: Chemical Safety Management Department
Telephone number: +81-6-6946-8061
FAX: +81-6-6946-1607
e-mail address: kagakuhinanzenkanri@kishida.co.jp

Section 2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

PHYSICAL AND CHEMICAL HAZARDS

Oxidizing solids: Category 2

HEALTH HAZARDS

Skin corrosion/irritation: Category 2

Serious eye damage/eye irritation: Category 2

Specific target organ toxicity - single exposure: Category 3 (Respiratory tract irritation)

Specific target organ toxicity - repeated exposure: Category 2 (blood)

Label elements



Signal word: Danger

HAZARD STATEMENT

May intensify fire; oxidizer

Causes skin irritation

Causes serious eye irritation

May cause respiratory irritation

May cause damage to organs through prolonged or repeated exposure (blood)

PRECAUTIONARY STATEMENT

Prevention

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

Keep away from clothing and other combustible materials.

Do not breathe dust/fume/gas/mist/vapors/spray.

Use only outdoors or in a well-ventilated area.

Wash contaminated parts thoroughly after handling.

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

Response

In case of fire: Use appropriate media to extinguish.

Get medical advice/attention if you feel unwell.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation 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 eye irritation persists: Get medical advice/attention.

Storage

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

Disposal

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

Specific Physical and Chemical hazards

Oxidizing material. Organic or combustible material may catch fire in contact with it.

Section 3. Composition/information on ingredients

Mixture/Substance selection:

Substance

Ingredient name:Sodium perchlorate
Content (%):98(min)
Chemical formula:ClNaO4
Chemicals No, Japan:1-240
CAS No.:7601-89-0
MW:122.4
ECNO:231-511-9

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

Section 4. First-aid measures

Descriptions of first-aid measures

General measures

Get medical advice/attention if you feel unwell.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.
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.

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.

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

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

Unsuitable extinguishing media

Inactive gas firefighting equipment

Halogenated firefighting system
Dry-powder firefighting equipment - hydrogen carbonate etc.
Dry-powder firefighting equipment - other (except for phosphate etc.,hydrogen carbonate etc.)
Carbon dioxide extinguisher
Halogenated extinguisher
Dry-powder extinguisher - hydrogen carbonate etc.
Dry-powder extinguisher - other (except for phosphate etc.,hydrogen carbonate etc.)

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.

Section 6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Ventilate area until material pick up is complete.
Wear proper protective equipment.

Environmental precautions

Prevent spills from entering sewers, watercourses or low areas.
Avoid raising dust.

Methods and materials for containment and cleaning up

Sweep up, place in a bag and hold for waste disposal.

Preventive measures for secondary accident

Collect spillage.

Section 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.
Keep away from clothing and other combustible materials.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.
Avoid contact with eyes.

Safety Measures

Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
When using do not eat, drink or smoke.

Any incompatibilities

See "10.Stability and Reactivity"

Advice on general occupational hygiene

Wash contaminated parts thoroughly after handling.
Take off contaminated clothing and wash it before reuse.

Storage
Conditions for safe storage
Keep container tightly closed.
Store in a cool, dry place. Do not store in direct sunlight.
Container and packaging materials for safe handling
Glass
Polyethylene

Section 8. Exposure controls/personal protection

Control parameters
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.
Eye protection
Wear eye/face protection.

Section 9. Physical and Chemical Properties

Information on basic physical and chemical properties
Physical state: Crystals or powder
Color: White
Odor: Odourless
Melting point/Freezing point: (decomposes) 482℃
Boiling point or initial boiling point data is not available.
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 data is not available.
Auto-ignition temperature data is not available.
Decomposition temperature data is not available.
pH data is not available.
Kinematic viscosity data is not available.
Solubility:
Solubility in water: Easily soluble
n-Octanol/water partition coefficient data is not available.
Vapor pressure data is not available.
Density and/or relative density: 2.0 g/cm3
Relative vapor density (Air=1) data is not available.
Particle characteristics data is not available.

Section 10. Stability and Reactivity

Reactivity

Not available.

Chemical stability

Hygroscopic (absorbs moisture from the air).

Possibility of hazardous reactions

Decomposes on heating. This produces toxic fumes of chlorine and chloroxides. The substance is a strong oxidant. It reacts with combustible and reducing materials. This generates fire and explosion hazard. (ICSC 0715)

Conditions to avoid

Contact with incompatible materials.
Contact with fire source.

Incompatible materials

Reducing agents, Combustible materials

Hazardous decomposition products

Chlorine, Chloroxides

Section 11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[Data for components of the product]

[GHS Cat. Japan, base data]
(Sodium perchlorate)
rat LD50=2100mg/kg (PATTY 4th, 1994)

Irritant properties

Skin corrosion/irritation

[Data for components of the product]

[GHS Cat. Japan, base data]
(Sodium perchlorate)
skin irritation (HSFS, 2002 et al)

Serious eye damage/irritation

[Data for components of the product]

[GHS Cat. Japan, base data]
(Sodium perchlorate)
eyes irritation (HSFS, 2002 et al)

Allergenic and sensitizing effects data is not available.

Mutagenic effects data is not available.

Carcinogenic effects data is not available.

Reproductive toxicity data is not available.

Specific target organ toxicity (STOT)

STOT-single exposure

[Data for components of the product]

[cat.3 (respiratory tract irritation)]

[GHS Cat. Japan, base data]
(Sodium perchlorate)
respiratory tract irritation (HSFS, 2002)

STOT-repeated exposure

[Data for components of the product]

[cat.2]

[GHS Cat. Japan, base data]
(Sodium perchlorate)

blood (HSFS, 2002)

Aspiration hazard data is not available.

Information on other hazards

May cause lung disorders by massive inhalation of powdered substance.
-e.g. fibrosis of lung tissue, cough, sputum, breath shortness, dyspnea, decline of lung function, interstitial lung disease, pneumothorax

Section 12. Ecological Information

Toxicity

Aquatic toxicity

[Data for components of the product]

Hazardous to the aquatic environment, short-term (acute)

[GHS Cat. Japan, base data]

(Sodium perchlorate)

Crustacea (Daphnia magna) EC50=490 mg/L/48hr (MOE risk assessment vol.9, 2011)

Hazardous to the aquatic environment, long-term (chronic)

[GHS Cat. Japan, base data]

(Sodium perchlorate)

Crustacea (Hyalella azteca) NOEC=1000mg/L/28days (MOE risk assessment vol.9, 2011)

Water solubility

(Sodium perchlorate)

very good (ICSC, 1999)

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.

Section 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

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

Section 14. Transport Information

UN Number or ID Number : 1502

UN Proper Shipping Name :

SODIUM PERCHLORATE

Class or division (Transport hazard class) : 5.1

Packing group : II

ERG GUIDE No.: 140

IMDG Code (International Maritime Dangerous Goods Regulations)

UN Number or ID Number : 1502

UN Proper Shipping Name :

SODIUM PERCHLORATE

Class or division (Transport hazard class) : 5.1

Packing group : II

IATA (Dangerous Goods Regulations)

UN Number or ID Number : 1502
UN Proper Shipping Name :
SODIUM PERCHLORATE
Class or division (Transport hazard class) : 5.1
Hazard labels : Oxidizer
Packing group : II

Environmental hazards
Marine pollutants (yes/no) : no

Section 15. Regulatory Information

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

U.S. Toxic Substances Control Act (TSCA) Inventory

Chemicals listed in TSCA Inventory

Sodium perchlorate

Other regulatory information

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

Section 16. Other information

GHS classification and labelling

Oxidising Solids, Category 2: H272 May intensify fire; oxidiser
Skin corrosion/irritation, Category 2: H315 Causes skin irritation
Serious eye damage/eye irritation, Category 2: H319 Causes serious eye irritation
STOT - single exposure, Category 3, Respiratory tract irritation: H335 May cause respiratory irritation.
STOT - Repeated exposure, Category 2: H373 May cause damage to organs through prolonged or repeated exposure

References and sources for data

Globally Harmonized System of classification and labelling of chemicals, UN
Recommendations on the TRANSPORT OF DANGEROUS GOODS 21th edit., 2019 UN
IMDG Code, 2020 Edition (Incorporating Amendment 40-20)
IATA Dangerous Goods Regulations (62nd Edition) 2021
2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
2022 TLVs and BEIs. (ACGIH)
Supplier's data/information

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 2021).