Date of issue: 30/10/2018
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Safety Data Sheet

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

Product identifier:

Product name: Magnesium perchlorate,blue 0.7-1.7mm (10-24mesh)

Product code (SDS NO): Q9180E-2

Details of the supplier of the safety data sheet

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

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

Acute toxicity (Oral): Category 4
Respiratory sensitization: Category 1
Skin sensitization: Category 1
Germ cell mutagenicity: Category 2
Carcinogenicity: Category 2
Reproductive toxicity: Category 1B
Specific target organ toxicity - single exposure: Category 2(CNS; digestive apparatus/alimentary system; liver; kidney)
Specific target organ toxicity - repeated exposure: Category 2(nerve/nervous system; respiratory apparatus/system; CVS; thyroid/thyroid gland; blood/blood system)

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment (Acute): Category 2
Hazardous to the aquatic environment (Long-term): Category 2

(Note) GHS classification without description: Not classified/Classification not possible

Label elements

Signal word: Danger

HAZARD STATEMENT

May intensify fire; oxidizer
Harmful if swallowed
May cause allergy or asthma symptoms or breathing difficulties if inhaled
May cause an allergic skin reaction
Suspected of causing genetic defects
Suspected of causing cancer
May damage fertility or the unborn child
May cause damage to organs after single exposure
May cause damage to organs through prolonged or repeated exposure

Toxic to aquatic life
Toxic to aquatic life with long lasting effects
PRECAUTIONARY STATEMENT
Prevention
Avoid release to the environment.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Keep/Store away from clothing/combustible materials.
Do not breathe dust/fume/gas/mist/vapors/spray.
In case of inadequate ventilation wear respiratory protection. (as specified by the manufacturer/supplier or the competent authority.)
Wash contaminated parts thoroughly after handling.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.
Do not eat, drink or smoke when using this product.
Response
In case of fire: Use appropriate media other than water for extinction.
Collect spillage.
Get medical advice/attention if you feel unwell.
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
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 or rash occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
Rinse mouth.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
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.

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3. Composition/information on ingredients

Mixture/Substance selection:
Mixture
Ingredient name:Magnesium perchlorate
Content (%):78-95
Chemical formula:Cl2MgO8
Chemicals No, Japan:1-234
CAS No.:10034-81-8
MW:223.21
ECNO:233-108-3

Ingredient name:Cobalt (II) chloride
Content (%):≦5.0
Chemical formula:Cl2Co
Chemicals No, Japan:1-207
CAS No.:7646-79-9
MW:129.8
ECNO:231-589-4
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 attention/advice if you feel unwell.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
Call a POISON CENTER or doctor/physician if you feel unwell.

IF ON SKIN (or hair)

Take off immediately all contaminated clothing. Rinse skin with water/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 or doctor/physician if you feel unwell.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.

Unsuitable extinguishing media

Inactive gas firefighting equipment
Halogenated firefighting system
Dry-powder firefighting equipment - hydrogen carbonate etc.
Dry-powder firefighting equipment - other
Carbon dioxide extinguisher
Halogenated extinguisher
Dry-powder extinguisher - hydrogen carbonate etc.
Dry-powder extinguisher - other

Specific hazards arising from the substance or mixture

Containers may explode when heated.
Fire may produce irritating, corrosive and/or toxic gases.

Advice for firefighters

Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

Special protective equipment and precautions for fire-fighters

Wear fire/flame resistant/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

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

Environmental precautions

Prevent spills from entering sewers, watercourses or low areas.

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.

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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/sparks/open flames/hot surfaces. - No smoking.

Keep/Store away from clothing/combustible materials.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

Safety Measures

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.

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

Keep container tightly closed.

Store in a cool, dry place. Do not store in direct sunlight.

Container and packaging materials for safe handling

Glass

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8. Exposure controls/personal protection

Control parameters

Adopted value

(Cobalt (II) chloride)

ACGIH(2018) TWA: 0.02mg-Co/m3(I) (Pulm func changes)

Notation

(Cobalt (II) chloride)

DSEN; RSEN

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.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Granularity

Color: Blue

Odor: Odourless to practically odourless

pH data is not available.

Boiling point or initial boiling point data is not available.

Boiling range data is not available.

Melting point/Freezing point data is not available.

Decomposition temperature data is not available.

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

Flash point data is not available.

Auto-ignition temperature data is not available.

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

Vapor pressure data is not available.

Relative vapor density (Air=1) data is not available.

Density and/or relative density data is not available.

Kinematic viscosity data is not available.

Solubility:

Solubility in water: Soluble

n-Octanol/water partition coefficient data is not available.

No Particle characteristics data is not available.

10. Stability and Reactivity

Reactivity

Not available.

Chemical stability

Stable under normal storage/handling conditions.

Possibility of hazardous reactions

(Cobalt (II) chloride)

Reacts with oxidants. (ICSC 0783)

Conditions to avoid

Contact with incompatible materials.

Contact with fire source.

Incompatible materials

Oxidizing agents, Reducing agents, Organic substance

Hazardous decomposition products

Chlorine compounds

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[GHS Cat. Japan, base data]

(Cobalt (II) chloride)

rat LD50=80mg/kg (MOE risk assessment vol.11, 2013)

Irritant properties

Skin corrosion/irritation
[GHS Cat. Japan, base data]
(Cobalt (II) chloride)
human skin irritation (HSDB, 2015)
Serious eye damage/irritation
[GHS Cat. Japan, base data]
(Cobalt (II) chloride)
eyes irrtating (HSDB, 2015)
Sensitization
Respiratory sensitization
[GHS Cat. Japan, base data]
(Cobalt (II) chloride)
cat. 1; JSOH recommendation, 2015
Skin sensitization
[GHS Cat. Japan, base data]
(Cobalt (II) chloride)
cat. 1; JSOH recommendation, 2015
Germ cell mutagenicity
[GHS Cat. Japan, base data]
(Cobalt (II) chloride)
cat. 2; DFGOT vol.23, 2007
Carcinogenicity
[GHS Cat. Japan, base data]
(Cobalt (II) chloride)
cat.2; IARC Gr. 2B (IARC 86, 2006 (Co compounds) et al.)
(Cobalt (II) chloride)
IARC-Gr.2B : Possibly carcinogenic to humans
(Cobalt (II) chloride)
ACGIH-A3(2018) : Confirmed Animal Carcinogen with Unknown Relevance to Humans
(Cobalt (II) chloride)
EU-Category 1B; Substances presumed to have carcinogenic potential for humans
Reproductive toxicity
[GHS Cat. Japan, base data]
(Cobalt (II) chloride)
cat. 1B; MOE risk assessment vol.11, 2013 et al.
STOT
STOT-single exposure
[cat.1]
[GHS Cat. Japan, base data]
(Cobalt (II) chloride)
CNS; digestive apparatus; liver; kidney (ATSDR, 2004)
[cat.3 (resp. irrit.)]
[GHS Cat. Japan, base data]
(Cobalt (II) chloride)
respiratory tract irritation (MOE risk assessment vol.11, 2013)
STOT-repeated exposure
[cat.1]
[GHS Cat. Japan, base data]
(Cobalt (II) chloride)
nerve/nervous system; respiratory apparatus; CVS; thyroid gland; blood/blood system (MOE risk assessment vol.11, 2013)
[cat.2]
[GHS Cat. Japan, base data]
(Cobalt (II) chloride)

testicle (MOE risk assessment vol.11, 2013)
Aspiration hazard data is not available.

12. Ecological Information

Ecotoxicity
Aquatic toxicity
Toxic to aquatic life
Toxic to aquatic life with long lasting effects
Aquatic acute toxicity component(s) data
[GHS Cat. Japan, base data]
(Cobalt (II) chloride)
Waterweed (Lemna minor) EC50=0.47mg/L/7days (MOE Japan, 2013)
Aquatic chronic toxicity component(s) data
[GHS Cat. Japan, base data]
(Cobalt (II) chloride)
Fish (Danio rerio) NOEC=0.13mg/L/16days (CICAD 69, 2006)
Water solubility
(Cobalt (II) chloride)
53 g/100 ml (20℃) (ICSC, 2013)
Persistence and degradability
Persistence and degradability data is not available.
Bioaccumulative potential
(Cobalt (II) chloride)
log Pow=0.85 (ICSC, 2013)
Mobility in soil
Mobility in soil data is not available.
Other adverse effects
Ozone depleting chemical data is not available.

13. Disposal considerations

Waste treatment methods
Avoid release to the environment (- if this is not the intended use).
Dispose of contents/container in accordance with local/national regulation.

14. Transport Information

UN No.: 1475
Proper Shipping Name :
MAGNESIUM PERCHLORATE
Class or division : 5.1
Packing group : II
ERG GUIDE No.: 140
IMDG Code (International Maritime Dangerous Goods Regulations)
UN No.: 1475
Proper Shipping Name :
MAGNESIUM PERCHLORATE
Class or division : 5.1
Packing group : II
IATA Dangerous Goods Regulations
UN No.: 1475
Proper Shipping Name :
MAGNESIUM PERCHLORATE

Class or division : 5.1
Hazard labels : Oxidizer
Packing group : II

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

Reproductive toxicity: cat.1, 1A, 1B
Cobalt (II) chloride
Hazardous to the aquatic environment - long-term hazard: cat.1, 2
Cobalt (II) chloride

15. Regulatory Information

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

US major regulations

TSCA

Cobalt (II) chloride; Magnesium perchlorate

Other regulatory information

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

16. Other information

GHS classification and labelling

Ox. Sol. 2: H272 May intensify fire; oxidizer
Acute Tox. 4: H302 Harmful if swallowed
Resp. Sens. 1: H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled
Skin Sens. 1: H317 May cause an allergic skin reaction
Muta. 2: H341 Suspected of causing genetic defects
Carc. 2: H351 Suspected of causing cancer
Repr. 1B: H360 May damage fertility or the unborn child
STOT SE 2: H371 May cause damage to organs after single exposure
STOT RE 2: H373 May cause damage to organs through prolonged or repeated exposure
Aquatic Acute 2: H401 Toxic to aquatic life
Aquatic Chronic 2: H411 Toxic to aquatic life with long lasting effects

Reference Book

Globally Harmonized System of classification and labelling of chemicals, (6th ed., 2015), UN Recommendations on the TRANSPORT OF DANGEROUS GOODS 20th edit., 2017 UN
IMDG Code, 2018 Edition (Incorporating Amendment 39-18)
IATA Dangerous Goods Regulations (60th Edition) 2019
Classification, labelling and packaging of substances and mixtures (table3-1 ECNO6182012)
2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
2019 TLVs and BEIs. (ACGIH)
http://monographs.iarc.fr/ENG/Classification/index.php
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 2018).