Date of issue: 2019/05/16
Date of revision: 2024/11/28

Safety Data Sheet

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

Product identifier:
Product name: Molecular sieve 4A1/8″
SDS No. : 5251E-4
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

Section 2. Hazards identification

GHS classification and label elements of the product
Classification of the substance or mixture
HEALTH HAZARDS
Serious eye damage/eye irritation: Category 2
Germ cell mutagenicity: Category 2
Carcinogenicity: Category 1A
Specific target organ toxicity - repeated exposure: Category 1 (respiratory system)
Specific target organ toxicity - repeated exposure: Category 2 (immune system, kidneys)
(Note) GHS classification without description: Not classified/Classification not possible
Label elements

Signal word: Danger
HAZARD STATEMENT
H319 Causes serious eye irritation
H341 Suspected of causing genetic defects
H350 May cause cancer
H372 Causes damage to organs through prolonged or repeated exposure (respiratory system)
H373 May cause damage to organs through prolonged or repeated exposure (immune system, kidneys)
PRECAUTIONARY STATEMENT
Prevention
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P264 Wash contaminated parts thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P270 Do not eat, drink or smoke when using this product.
Response
P314 Get medical advice/attention if you feel unwell.

P308 + P313 IF exposed or concerned: Get medical advice/attention.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/attention.

Storage

P405 Store locked up.

Disposal

P501 Dispose of contents/container in accordance with local/national regulation.

Specific adverse human health effects

See "11. Toxicological Information".

Section 3. Composition/information on ingredients

Mixture/Substance selection:

Mixture

Ingredient name	Content (%)	CAS No.	ENCS	Chemical formula
Zeolite	>70	1318-02-1	1-23; 1-189; 1-495; 1-508; 1-548; 9-2423	-
Clay minerals	<30	999999-99-4	-	-
Quartz	<5.0	14808-60-7	1-548	SiO2
Sodium diphosphate,anhydrous	<2.0	7722-88-5	1-497	Na4P2O7

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

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

Use appropriate extinguishing media suitable for surrounding facilities.

Unsuitable extinguishing media

Unsuitable extinguishing media data is not available.

Specific hazards arising from the substance or mixture

Fire may produce irritating, corrosive and/or toxic gases.

Runoff from fire control or dilution water may cause pollution.

See ″10.Stability and Reactivity″.

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 a full facepiece operated in the positive pressure mode.

Section 6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Keep unauthorized personnel away.

Ventilate area until material pick up is complete.

Wear proper protective equipment.

Environmental precautions

Prevent spills from entering sewers, watercourses, low areas or rivers. To be careful not discharged to the environment without being properly handled waste water contaminated.

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.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

Safety Measures

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

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

Wash hands et al thoroughly after handling.

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.

Storage
Conditions for safe storage
Keep container tightly closed.
Store locked up. (P405)
Store in a cool, dry place. Do not store in direct sunlight.
Storage in accordance with local/national regulation.

Container and packaging materials for safe handling
Use closed unbreakable containers.

Section 8. Exposure controls/personal protection

Control parameters
Control value and concentration standard value are not available in ISHA.
Adopted value
(Quartz)
JSOH(2006) (crystalline silica) 0.03mg/m3 (respirable dust)
(Quartz)
ACGIH(2010) TWA: 0.025mg/m3(R) (Pulmonary fibrosis; lung cancer)

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
Recommend to use protective equipment in conformity with the standards.
Use appropriate protective equipment in accordance with local/national regulation.

Respiratory protection
Wear respiratory protection (dust-proof mask/gas mask). Select chemical cartridge corresponding to type of gases when using a gas mask.

Hand protection
Wear impervious protective glove.

Eye protection
Wear eye/face protection. Wear safety goggles in cases gas is generated.

Skin and body protection
Wear protective clothing.

Section 9. Physical and Chemical Properties

Information on basic physical and chemical properties
Physical state: Solid
Color: Brown
Odor data is not available.
Melting point/Freezing point data is not available.
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: Insoluble
Solubility in solvent data is not available.
n-Octanol/water partition coefficient data is not available.
Vapor pressure data is not available.
Density and/or relative density: 0.6～0.9
Relative vapor density (Air=1) data is not available.
Particle characteristics data is not available.
Other information
Other information is not available.

Section 10. Stability and Reactivity

Reactivity
Not available.
Chemical stability
Stable under normal storage/handling conditions.
Possibility of hazardous reactions
(Quartz)
Reacts violently with strong oxidants. This generates fire and explosion hazard. (ICSC 0808)
(Sodium diphosphate,anhydrous)
Decomposes on burning. The solution in water is a weak base. (ICSC 1140)
Conditions to avoid
Contact with incompatible materials.
Contact with fire source.
Incompatible materials
Strong oxidizing agents
Hazardous decomposition products
Not available.

Section 11. Toxicological Information

Information on toxicological effects
Acute toxicity
Acute toxicity (Oral)
[Data for components of the product]
[NITE-CHRIP]
(Zeolite)
rat LD50: > 2000 mg/kg (test substance: Zeolite A, Zeolite X) (source: NITE)
(Sodium diphosphate,anhydrous)
rat LD50: 1000 mg/kg (source: NITE)
Acute toxicity (Dermal)
[Data for components of the product]
[NITE-CHRIP]

(Zeolite)
rabbit LD50: > 2000 mg/kg (source: NITE)
Acute toxicity (Inhalation)
[Data for components of the product]
[NITE-CHRIP]
(Zeolite)
dust/mist: rat LC50: > 14 mg/L (4-hour) (test substahce: zeolite A) (source: NITE)
Irritant properties
Skin corrosion/irritation
[Data for components of the product]
[NITE-CHRIP]
(Sodium diphosphate,anhydrous)
Category 2 (source: NITE)
Serious eye damage/irritation
[Product]
Category 2, Causes serious eye irritation
[Data for components of the product]
[NITE-CHRIP]
(Zeolite)
Category 2 (source: NITE)
(Sodium diphosphate,anhydrous)
Category 1 (source: NITE)
Allergenic and sensitizing effects data is not available.
Germ cell mutagenicity
[Product]
Category 2, Suspected of causing genetic defects
[Data for components of the product]
[NITE-CHRIP]
(Quartz)
Category 2 (source: NITE)
Carcinogenicity
[Product]
Category 1A, May cause cancer
[Data for components of the product]
[NITE-CHRIP]
(Quartz)
Category 1A (source: NITE)
[IARC]
(Zeolite)
Group 3 : Not classifiable as to its carcinogenicity to humans
(Quartz)
Group 1 : Carcinogenic to humans
[ACGIH]
(Quartz)
A2(2010) : Suspected Human Carcinogen
[NTP]
(Quartz)
Known : Known to be Human Carcinogens
Reproductive toxicity data is not available.
Specific target organ toxicity (STOT)

STOT-single exposure
[Data for components of the product]
[NITE-CHRIP]
(Sodium diphosphate,anhydrous)
Category 3 (Respiratory tract irritation) (source: NITE)
STOT-repeated exposure
[Product]
Category 1, Causes damage to organs through prolonged or repeated exposure
Category 2, May cause damage to organs through prolonged or repeated exposure
[Data for components of the product]
[NITE-CHRIP]
(Zeolite)
Category 1 (respiratory system) (source: NITE)
(Quartz)
Category 1 (immune system, respiratory system, kidneys) (source: NITE)
Aspiration hazard data is not available.

Section 12. Ecological Information

Toxicity
Aquatic toxicity
[Data for components of the product]
Hazardous to the aquatic environment, short-term (acute)
[NITE-CHRIP]
(Zeolite)
Crustacea (Daphnia magna) 96-hour EC50: 377.17 mg/L (source: NITE)
(Quartz)
Crustacea (Daphnia magna) 24-hour LL50: > 10000 mg/L (test substance: Amorphous silica) (source: NITE)
Fish (Danio rerio) 96-hour LL0: 10000 mg/L (test substance: Amorphous silica) (source: NITE)
(Sodium diphosphate,anhydrous)
Fish (Oncorhynchus mykiss) 96-hour LC50: > 100 mg/L (OECD TG 203, GLP) (test substance: Phosphoric acid, potassium salt) (source: NITE)
Crustacea (Daphnia magna) 48-hour EC50: > 100 mg/L (EPA OTS 797.1300, GLP) (test substance: Phosphoric acid, potassium salt) (source: NITE)
Algae (Desmodesmus subspicatus) 72-hour ErC50: > 100 mg/L (EU Method C.3, GLP) (test substance: Phosphoric acid, potassium salt) (source: NITE)
Hazardous to the aquatic environment, long-term (chronic)
[NITE-CHRIP]
(Zeolite)
Crustacea (Daphnia magna) 21-day NOEC: 200 mg/L (source: NITE)
Fish (Pimephales promelas) 21-day NOEC (lethal, growth, hatching): 175 mg/L (source: NITE)
(Sodium diphosphate,anhydrous)
Algae (Desmodesmus subspicatus) 72-hour NOErC: > 100 mg/L (EU Method C.3, GLP) (test substance: Phosphoric acid, potassium salt) (source: NITE)
Water solubility
(Quartz)
none (source: ICSC, 2016)
(Sodium diphosphate,anhydrous)

not poorly water-soluble (58.5 g/L (EU Method A.6, GLP)) (source: NITE)

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 as industrial waste. Accordance with local/national regulation.

Section 14. Transport Information

UN Number or ID Number : Not regulated

IMDG Code (International Maritime Dangerous Goods Regulations)

UN Number or ID Number : Not regulated

IATA (Dangerous Goods Regulations)

UN Number or ID Number : Not regulated

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 diphosphate,anhydrous; Quartz

Other regulatory information

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

Section 16. Other information

References and sources for data

Globally Harmonized System of classification and labelling of chemicals, UN
Recommendations on the TRANSPORT OF DANGEROUS GOODS 22nd edit., 2021 UN
IMDG Code, 2022 Edition (Incorporating Amendment 41-22)
IATA Dangerous Goods Regulations (65th Edition) 2024
2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
2024 TLVs and BEIs. (ACGIH)
JIS Z 7252 : 2019
JIS Z 7253 : 2019
2023 Recommendation on TLVs (JSOH)

Supplier's data/information

General Disclaimer

Please provide SDS to customers for selling or transferring.

All chemicals have unknown hazard. Handle the product with care.

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 Data published in Japan (National Institute of Technology and Evaluation (NITE) Chemical Risk Information Platform (NITE-CHRIP), up to FY2023).