Date of issue for the 1st edition : 24/Apr/2015
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Safety Data Sheet

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

Product identifier:

Product name: Molecular sieves 3A 1/16

Reference number(SDS):77125jis_J_E1-2

Product type:

Reagent

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

Relevant identified uses of the product: Research and Development

Uses advised against: Do not use for other purposes.

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

Section 2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

HEALTH HAZARDS

Germ cell mutagenicity: Category 2

Carcinogenicity: Category 1A

Specific target organ toxicity - repeated exposure: Category 2 (immune system, respiratory organs, kidneys)

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

Label elements

Signal word: Danger

HAZARD STATEMENT

H341-Suspected of causing genetic defects

H350-May cause cancer

H373-May cause damage to organs through prolonged or repeated exposure

PRECAUTIONARY STATEMENT

Prevention

Obtain special instructions before use.

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

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

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

Response

Get medical advice/attention if you feel unwell.

IF exposed or concerned: Get medical advice/attention.

Storage

Store locked up.

Disposal

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

Section 3. Composition/information on ingredients

Mixture/Substance selection:

Mixture

Ingredient name: Zeolite
Content (%):70 <
Chemical formula:M2/nO・Al2O3・xSiO2(M=Na, K)
ENCS:1-23(Al2O3); 1-495(Sodium oxide); 1-548(SiO2); 9-2423(K2O)
CAS No.:1318-02-1
EC No.:215-283-8

Ingredient name: Clay minerals
Content (%):< 30
ENCS: Not applicable
CAS No.:999999-99-4(Naturally occurring substances)

Ingredient name:Crystalline silica(quartz)
Content (%):<3
Chemical formula:O2Si
ENCS:1-548
CAS No.:14808-60-7
MW:60.08
EC No.:238-878-4

Ingredient name: Tetrasodium oxybisphosphonate
Content (%):<2
Chemical formula: Na4O7P2
ENCS:1-497
CAS No.:7722-88-5
MW:265.90
EC No.:231-767-1

Ingredient name: Refractory ceramic fibers
Content (%):<1
ENCS: Not applicable
CAS No.:142844-00-6
EC No.:604-314-4

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

Components contributing to the hazard

Carcinogenic (Article 57a) in REACH SVHC candidate list
Refractory ceramic fibers

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.
IF INHALED: 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.
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.

IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell.

Most important symptoms and effects, both acute and delayed

Specific information on symptom and effect are unknown.

Indication of any immediate medical attention and special treatment needed

Information on indication of any immediate medical attention and special treatment needed is not available.

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.

The product is non-flammable.

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 a full facepiece operated in the 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

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

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.
(Precautions)
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 data is not available.
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
Keep only in original packaging.
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.

Section 8. Exposure controls/personal protection

Control parameters
Control value and Concentration standard value under ISHA
(Refractory ceramic fibers)
Japan control value 0.3fibers(as fibers over 5 μm)/cm3
Occupational Exposure Limit
JSOH
(Crystalline silica(quartz))
0.03mg/m3 (respirable crystalline silica)
(Refractory ceramic fibers)
1mg/m3(fibers/mL)
ACGIH
(Crystalline silica(quartz))
TWA: 0.025mg/m3(R) (Pulm fibrosis; lung cancer)
(Refractory ceramic fibers)
TWA: 0.2f/cc(F) (Pulm fibrosis; pulm func)
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
Select and wear respiratory protection in accordance with approved standards (e.g. JIS T8150).
Recommended respiratory protection : Dust mask
Hand protection
Wear protective gloves.
Inspect before use and replace worn or damaged gloves.
Contact the glove manufacturer for specific advice on glove selection and breakthrough

times for your use conditions.
Chemical-resistant, impervious gloves complying with an approved standard (e.g. JIS T8116) should be used.

Eye protection

Wear eye/face protection in accordance with approved standards (e.g. JIS T8147).

Skin and body protection

Wear impervious clothing and boots in case of repeated or prolonged treatment.
Personal protective equipment for the body and skin should be selected based on the task being performed and the risks involved.

Section 9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Solid (granular)
Color: Brown
Odor: Odorless
Odor threshold 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: Non-flammable
Lower and upper explosion limit/flammability limit data is not available.
Flash point: Non-flammable
Auto-ignition temperature data is not available.
Decomposition temperature data is not available.
pH: 8～12 (10% slurry)
Kinematic viscosity data is not available.
Solubility:
Solubility in water: Insoluble
Solubility in solvent data is not available.
Partition coefficient n-octanol/water data is not available.
Vapor pressure data is not available.
Density and/or relative density data is not available.
Relative vapor density (Air=1) data is not available.
Particle characteristics data is not available.

Other information

Bulk density: 600～900g/L

Section 10. Stability and Reactivity

Reactivity

Reactivity data is not available.

Chemical stability

Stable under normal storage/handling conditions.

Possibility of hazardous reactions

Possibility of hazardous reactions data is not available.

Conditions to avoid

Conditions to avoid data is not available.

Incompatible materials

Incompatible materials data is not available.

Hazardous decomposition products

Hazardous decomposition products data is not available.

Section 11. Toxicological Information

The product has not been subjected to toxicological testing. Refer to the available data on the constituents.

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[Product]

Classification not possible (Insufficient data available or no data available).

[Product data]

rat LD50 > 32000 mg/kg(Supplier's data/information)#

[Data for components of the product]

[NITE-CHRIP]

(Zeolite)

rat LD50: > 2000 mg/kg (test substance: Zeolite A, Zeolite X) (source: NITE)

(Tetrasodium oxybisphosphonate)

rat LD50: 1000 mg/kg (source: NITE)

Acute toxicity (Dermal)

[Product]

Classification not possible (Insufficient data available or no data available).

[Product data]

rabbit LD50 > 2000 mg/kg(Supplier's data/information)#

[Data for components of the product]

[NITE-CHRIP]

(Zeolite)

rabbit LD50: > 2000 mg/kg (source: NITE)

Acute toxicity (Inhalation)

[Product]

Classification not possible (Insufficient data available or no data available).

[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

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

[NITE-CHRIP]

(Tetrasodium oxybisphosphonate)

Category 2 (source: NITE)

(Refractory ceramic fibers)

Category 2 (source: NITE)

Serious eye damage/irritation

[Product]

Classification not possible (Insufficient data available or no data available).

[Product data]

Classification not possible (source: Supplier's data/information)

[Data for components of the product]

[NITE-CHRIP]

(Zeolite)

Category 2 (source: NITE)

(Tetrasodium oxybisphosphonate)

Category 1 (source: NITE)

(Refractory ceramic fibers)
Category 2 (source: NITE)

Sensitization

Respiratory sensitization

[Product]
Classification not possible (Insufficient data available or no data available).

[Data for components of the product]
No data available.

Skin sensitization

[Product]
Classification not possible (Insufficient data available or no data available).

[Data for components of the product]
No data available.

Germ cell mutagenicity

[Product]
Category 2, Suspected of causing genetic defects

[Data for components of the product]
[NITE-CHRIP]
(Crystalline silica(quartz))
Category 2 (source: NITE)

Carcinogenicity

[Product]
Category 1A, May cause cancer

[Data for components of the product]
[NITE-CHRIP]
(Crystalline silica(quartz))
Category 1A (source: NITE)
(Refractory ceramic fibers)
Category 1B (source: NITE)
[IARC]
(Zeolite)
Group 3 : Not classifiable as to its carcinogenicity to humans
(Crystalline silica(quartz))
Group 1 : Carcinogenic to humans
(Refractory ceramic fibers)
Group 2B : Possibly carcinogenic to humans
[ACGIH]
(Crystalline silica(quartz))
A2: Suspected Human Carcinogen
(Refractory ceramic fibers)
A2: Suspected Human Carcinogen
[JSOH]
(Crystalline silica(quartz))
Group 1: The agents which are carcinogenic to humans
(Refractory ceramic fibers)
Group 2B: The agents which are probably or possibly carcinogenic to humans
[NTP]
(Crystalline silica(quartz))
Known : Known to be Human Carcinogens
[EPA]
(Refractory ceramic fibers)
Group B2; Probable human carcinogen(1992)

[EU]
(Refractory ceramic fibers)
Category 1B; Substances presumed to have carcinogenic potential for humans

Reproductive toxicity
[Product]
Classification not possible (Insufficient data available or no data available).
[Data for components of the product]
No data available.

Specific target organ toxicity (STOT)
STOT-single exposure
[Product]
Classification not possible (Insufficient data available or no data available).
[Data for components of the product]
[NITE-CHRIP]
(Tetrasodium oxybisphosphonate)
Category 3 (Respiratory tract irritation) (source: NITE)
(Refractory ceramic fibers)
Category 3 (Respiratory tract irritation) (source: NITE)

STOT-repeated exposure
[Product]
Category 2, May cause damage to organs through prolonged or repeated exposure
[Product data]
Category2 (immune system, respiratory organs, kidneys) (source: Supplier's data/information)
[Data for components of the product]
[NITE-CHRIP]
(Zeolite)
Category 1 (respiratory system) (source: NITE)
(Crystalline silica(quartz))
Category 1 (immune system, respiratory system, kidneys) (source: NITE)

Aspiration hazard
[Product]
Classification not possible (Insufficient data available or no data available).
[Data for components of the product]
No data available.

Section 12. Ecological Information

The product has not been subjected to ecotoxicological testing. Refer to the available data on the constituents.

Ecotoxicity
Aquatic toxicity
[Product]
Classification not possible (Insufficient data available or no data available).
[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)
(Crystalline silica(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)
(Tetrasodium oxybisphosphonate)
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)
(Tetrasodium oxybisphosphonate)
Algae (Desmodesmus subspicatus) 72-hour NOErC: > 100 mg/L (EU Method C.3, GLP)
(test substance: Phosphoric acid, potassium salt) (source: NITE)

Water solubility
[Data for components of the product]
(Crystalline silica(quartz))
none (source: ICSC, 2016)
(Tetrasodium oxybisphosphonate)
not poorly water-soluble (58.5 g/L (EU Method A.6, GLP)) (source: NITE)
(Refractory ceramic fibers)
none (source: ICSC, 2012)

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 No., UN CLASS
UN Number or ID Number : Not regulated
UN Proper Shipping Name : Not regulated
Class or division (Transport hazard class) : Not regulated
Packing group : Not regulated

IMDG Code (International Maritime Dangerous Goods Regulations)
UN Number or ID Number : Not regulated
UN Proper Shipping Name : Not regulated
Class or division (Transport hazard class) : Not regulated
Packing group : Not regulated

IATA (Dangerous Goods Regulations)
UN Number or ID Number : Not regulated
UN Proper Shipping Name : Not regulated
Class or division (Transport hazard class) : Not regulated
Packing group : Not regulated

Environmental hazards

Marine pollutants (yes/no) : no

Special precautions for user

Special precautions for user is not applicable.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Non Noxious Liquid Substances ; Cat. OS

Crystalline silica(quartz)

MARPOL Annex V - HME (Harmful to the Marine Environment)

Carcinogenicity: cat.1, 1A, 1B

Crystalline silica(quartz); Refractory ceramic fibers

Specific target organ toxicity - repeated exposure: cat.1

Zeolite; Crystalline silica(quartz)

Section 15. Regulatory Information

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

List of substances subject to authorisation (REACH, Annex XIV)/SVHC - candidate list

Carcinogenic (Article 57a)

Refractory ceramic fibers

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

Chemicals listed in TSCA Inventory

7722-88-5; 14808-60-7

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.

Section 16. Other information

GHS classification and labelling

H341-Germ cell mutagenicity, Category 2: H341 Suspected of causing genetic defects

H350-Carcinogenicity, Category 1A: H350 May cause cancer

H373-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 23rd edit., 2023 UN

IMDG Code, 2024 Edition (Incorporating Amendment 42-24)

IATA Dangerous Goods Regulations (66th Edition) 2025

2024 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2025 TLVs and BEIs. (ACGIH)

JIS Z 7252 : 2019

JIS Z 7253 : 2019

Recommendation of occupational exposure limits (2023-2024) (JSOH)

Notification No. 0111-1 (January 11, 2022), Chemical Hazards Control Division, Industrial

Safety and Health Department, Labour Standards Bureau, MHLW in Japan
Supplier's data/information
Chemicals safety data management system "GHS Assistant" Version 4.36 (https://www.asahi-ghs.com/)
NITE Chemical Risk Information Platform "NITE-CHRIP"
(https://www.chem-info.nite.go.jp/chem/chrip/chrip_search/systemTop)
GHS Classification Guidance for Enterprises 2019 Revised Edition (Ver. 2.1) (May. 2024, METI)

Abbreviations and acronyms

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)
METI (Ministry of Economy, Trade and Industry in Japan)
MHLW (Ministry of Health, Labour and Welfare in Japan)
MOE (Ministry of the Environment in Japan)
JSOH (Japan Society for Occupational Health)
ISHA (Industrial Safety and Health Act in Japan)
CSCL (Chemical Substances Control Law in Japan)
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 Data published in Japan (National Institute of Technology and Evaluation (NITE) Chemical Risk Information Platform (NITE-CHRIP), up to FY2024).