Safety Data Sheet

Date of Issue: 06.10.2021 Date of Expiry: 06.10.2026

1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Company Name : **ECP Limited**
Address : PO Box 34125, Birkenhead, Auckland 0746
Telephone : +64 9 480 4386
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Emergency phone number : 0800 243 622 (24 hours)

Product Name	**Sodium Metasilicate pentahydrate**
Product Code	**48209**
CAS No.	**6834-92-0**

Recommended use : Laboratory Investigations

2: Hazard's identification

2.1 GHS Classification

Acute toxicity, Oral (Category D), H302
Skin corrosion (Category B), H314
Serious eye damage (Category A), H318

2.2 GHS Label elements, including precautionary statements

Pictogram

Signal word : Danger

Hazard statement(s)

H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.

Precautionary statement(s)

Prevention

P260 Do not breathe dust or mist.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

P301 + P312 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310	Immediately call a POISON CENTER/ doctor.
P321	Specific treatment (see supplemental first aid instructions on this label).
P363	Wash contaminated clothing before reuse.

Storage

P405	Store locked up.

Disposal

P501	Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards - none

3: Composition/information on ingredients

3.1 Substances

Synonyms	:	Disodium metasilicate
Formula	:	Na_2O_3Si
Molecular weight	:	122.06 g/mol
CAS-No.	:	6834-92-0
EC-No.	:	229-912-9
Index-No.	:	014-010-00-8

4: First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled :

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact :

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

In case of eye contact :

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed :

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Sodium oxides, silicon oxides

Not combustible.

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas.
Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.
For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

7: Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.
Provide appropriate exhaust ventilation at places where dust is formed.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.
hygroscopic

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8: Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

We are not aware of any national exposure limit.

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection :

Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards.

Skin protection :

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection :
Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection :
Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type or respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards.

9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance	
Form	powder
Colour	white
b) Odour	No data available
c) Odour Threshold	No data available
d) pH	12.5 at 10 g/l at 20 °C
e) Melting point/freezing point	
Melting point/range	1,090 °C
f) Initial boiling point and boiling range	No data available
g) Flash point	Not applicable
h) Evaporation rate	No data available
i) Flammability (solid, gas)	The product is not flammable.
j) Upper/lower flammability or explosive limits	No data available
k) Vapour pressure	0.0103 hPa at 1,175 °C
l) Vapour density	No data available
m) Relative density	2.61 g/cm3 at 20 °C
n) Water solubility	210 g/l at 20 °C
o) Partition coefficient: n-octanol/water	Not applicable for inorganic substances
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	No data available
t) Oxidizing properties	No data available

9.2 Other safety information

Bulk density	950 kg/m3 at 20 °C
Solubility in other solvents	Alcohol - insoluble
Dissociation constant	9.9 - 12 at 30 °C

10: Stability and reactivity

10.1 Reactivity
No data available

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
No data available

10.4 Conditions to avoid
No data available

10.5 Incompatible materials
Strong acids, Lead, Tin/tin oxides, Zinc, Aluminium, Strong oxidizing agents

10.6 Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Sodium oxides, silicon oxides

Other decomposition products - No data available
In the event of fire: see section 5

11: Toxicological information

11.1 Information on toxicological effects
Acute toxicity
LD50 Oral - Rat - male and female - 1,152 - 1,349 mg/kg
Remarks: Gastrointestinal: Ulceration or bleeding from stomach.
LC50 Inhalation - Rat - male and female - 4 h - > 2.06 mg/l
(US-EPA)
LD50 Dermal - Rat - male and female - > 5,000 mg/kg
(US-EPA)

Skin corrosion/irritation
Skin - Rabbit
Result: Corrosive - 4 h
(OECD Test Guideline 404)

Serious eye damage/eye irritation
Causes serious eye damage.

Respiratory or skin sensitisation
Local lymph node assay (LLNA) - Mouse
Result: negative
(OECD Test Guideline 429)

Germ cell mutagenicity
Ames test
Escherichia coli/Salmonella typhimurium
Result: negative
Mutagenicity (mammal cell test): chromosome aberration.
Chinese hamster lung cells
Result: negative
In vitro mammalian cell gene mutation test
Chinese hamster lung cells
Result: negative
OECD Test Guideline 475
Mouse - male - Bone marrow
Result: negative

Carcinogenicity
IARC:
No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
Inhalation - May cause respiratory irritation. - Respiratory system

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Additional Information
Repeated dose toxicity - Rat - male and female - 3 Months - No observed adverse effect level - 227 - 237 mg/kg
RTECS: VV9275000
burning sensation, Cough, wheezing, laryngitis, Shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12: Ecological information

12.1 Toxicity

Toxicity to fish
semi-static test LC50 - Danio rerio (zebra fish) - 210 mg/l - 96 h
(ISO 7346/1)

Toxicity to daphnia and other aquatic invertebrates
static test EC50 - Daphnia magna (Water flea) - 1,700 mg/l - 48 h
(Regulation (EC) No. 440/2008, Annex, C.2)

Toxicity to algae
EC50 - Desmodesmus subspicatus (green algae) - 207 mg/l - 72 h
(DIN 38412)

Toxicity to bacteria
EC50 - activated sludge - > 100 mg/l - 3 h
(OECD Test Guideline 209)

12.2 Persistence and degradability

The methods for determining biodegradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

No data available

13: Disposal considerations

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging
Dispose of as unused product

14: Transport Information Table

		ADR/RID – European packaging certification	**IMDG International Maritime Dangerous Goods Code**	**IATA – DGR International Air Travel Association – Dangerous Goods Regulations**
14.1	**UN Number**	3253	3253	3253
14.2	**UN Proper Shipping name**	DISODIUM TRIOXOSILICATE	DISODIUM TRIOXOSILICATE	Sodium Trioxosilicate
14.3	**Transport Hazard Class**	8	8	8
14.4	**Packaging group**	III	III	III
14.5	**Environmental Hazards**	No	No	No
14.6	**Special precautions for user**	none		
14.7	**Incompatible materials**	Strong acids , Lead , Tin/tin oxides , Zinc , Aluminium, Strong oxidizing agents		

15: Regulatory information

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

National regulatory information
HSNO Approval Code: HSR003511
HSNO Group Standard Approval: HSR002596 - Laboratory Chemicals and Reagent Kits Group Standard 2006
Tracking Required: not required
Approved Handler Cert.: not required

16: Disclaimer

The information above is believed to be accurate and represents the best information currently available to us. However, the information is not a guarantee expressed or implied, with respect to such information, and we assume no liability resulting from its use. Anyone using the chemical described here should ensure that he or she has the appropriate training and has the expertise and any equipment required for safe handling. If clarification or further information is required, please contact ECP Ltd or refer to the official handler of dangerous goods within your own company. The user should also make their own investigations to determine the suitability of the product for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

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