1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

Product Identifier:

Chemical Name (EINECS): Disodium Metasilicate

Trade Names: Metso 510, Metso 520

Synonyms: Sodium metasilicate pentahydrate; Metso penta

CAS Number: 10213-79-3

EINECS Number: 2299129

REACH Registration Number: 01-2119449811-37-XXXX

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

Identified use(s): General purpose industrial chemical for use in a wide range of applications. Complexing agent; Corrosion inhibitor; Flame retardant or fire preventing agent; Flotation agent; pH Regulating agent; Viscosity control agent. See also Annex to the extended Safety Data Sheet (eSDS).

Uses advised against: None known.

Company name: Nexchem Ltd
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Leycroft Road
Leicester
LE4 1ET
Tel: 0116 2311130
24/7 Emergency Tel: 0800 246 1274
Email: sales@nexchem.co.uk

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture:

GHS Classification: Skin Corr. 1B/Eye Dam. 1. STOT SE 3. Met. Corr. 1.

Hazards summary: Alkaline. Causes burns. Irritating to respiratory system. May cause permanent damage to eyes.

Label elements:

Hazard Pictogram:

Signal word(s): Danger.

[cont...]

Hazard statement(s):

H314: Causes severe skin burns and eye damage.
H335: May cause respiratory irritation.
H290: May be corrosive to metals.

Precautionary statement(s):

P261: Avoid breathing dust.
P262: Do not get in eyes, on skin, or on clothing.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
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.
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

3. COMPOSITION / INFORMATION ON INGREDIENTS

EC Classification No. 1272/2008:

Ingredient(s)	% W/W	CAS No.	EINECS No./REACH Registration No.	Hazard symbol(s) and Hazard statement(s)
Disodium metasilicate	100	10213-79-3	2299129 01-2119449811-37-XXXX	H314: Skin Corr. 1B Eye Dam. 1; H335: STOT SE3; H290: Met. Corr. 1;

EC Classification No. 67/548/EEC:

Ingredients(s)	%W/W	CAS No.	EINECS No./REACH Registration No.	EC Classification and Risk Phrases
Disodium metasilicate	100	10213-79-3	2299129 01-2119449811-37-XXXX	C R34 R37

4. FIRST AID MEASURES (SYMPTOMS)

Description of first aid measures:

Eye contact: Irrigate with eyewash solution or clean water, holding the eyelids apart, for at least 15 minutes. Obtain immediate medical attention.

Skin Contact: Was affected skin with plenty of water. Obtain medical attention.

Inhalation: Remove patient from exposure, keep warm and at rest. Obtain immediate medical attention.

Ingestion: Do not induce vomiting. Wash out mouth with water and give 200-300 ml (half a pint) of water to drink. Obtain immediate medical attention.

Most import symptoms and effects, both acute and delayed:

Alkaline. Causes burns. Irritating to respiratory system. May cause permanent damage to eyes.

Indication of any immediate medical attention and special treatment needed:

Obtain immediate medical attention.

[cont...]

5. FIRE-FIGHTING MEASURES

Extinguishing Media:

Suitable Extinguishing Media: Compatible with all standard fire-fighting techniques.

Unsuitable Extinguishing Media: None known.

Special hazards arising from the substance or mixture: Not applicable. Inorganic powder or granules. Non-combustible.

Advice for fire-fighters: None.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Wear suitable protective clothing. Wear eye/face protection. An approved dust mask should be worn if dust is generated during handling.

Environmental precautions: Do not allow to enter drains, sewers or watercourses. Advise Authorities is spillage has entered water course or sewer or has contaminated soil or vegetation.

Methods and material for containment and cleaning up: Caution – spillages may be slippery. Avoid generation of dust. Sweep or preferably vacuum up and collect in suitable containers for recovery or disposal.

Reference to other sections: See also Section 8.

7. HANDLING AND STORAGE

Precautions for safe handling: Avoid contact with eyes, skin and clothing. Avoid generation of dust. Emergency shower and eye was facilities should be readily available. See also Section8.

Conditions for safe storage, including any incompatibilities:

Requirements for storage: Keep container tightly closed and dry.
Unsuitable containers: Aluminium. See also Section 10.

Specific end use(s): None known.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters:

SUBSTANCE	Occupational Exposure Limits
Sodium Metasilicate Pentahydrate	No Occupational Exposure Limit assigned. An exposure limit of 2 mg/m3 (15 min TWA) is recommended by analogy with sodium hydroxide.

[cont...]

Derived No Effect Level (DNEL)	Oral/mg/kg bw/d	Inhalation/mg/m3	Dermal/mg/kg bw/d
Workers – Acute – Systemic effects	-	-	-
Workers – Acute – Local effects	-	-	-
Workers – Long Term – Systemic effects	-	6.22	1.49
Workers – Long Term – Local effects	-	-	-
Consumers – Acute – Systemic effects	-	-	-
Consumers – Acute – Local effects	-	-	-
Consumers – Long Term – Systemic effects	0.74	1.55	0.74
Consumers – Long Term – Local effects	-	-	-

For further details and guidance see Exposure Scenarios in Annex to the extended Safety Data Sheet (eSDS). Risk management measures (RMMs) for identified uses must be implemented as described in the SDS and in the relevant exposure scenarios.

Predicted No Effect Concentrations (PNEC):

PNEC water (freshwater) = 7.5 mg/l
PNEC water (marine water) = 1 mg/l
PNEC water(intermittent) = 7.5 mg/l
PNEC sediment = Not available
PNEC soil = Not available
PNECSTP = 1000 mg/l
PNEC Secondary Poisoning (oral) = Not applicable

Exposure controls: Wear protective equipment to comply with good occupational hygiene practice. Do not eat, drink or smoke at the workplace.

Engineering Controls: Engineering methods to prevent or control exposure are preferred. Methods include process or personnel enclosure, mechanical ventilation (dilution and local exhaust), and control of process conditions.

Personal Protection:

Respiratory protection: Avoid inhalation of dusts. Wear suitable respiratory protective equipment if working in confined spaces with inadequate ventilation or where there is any risk of the exposure limits being exceeded. Advice on respiratory protective equipment is given in the HSE (Health and Safety Executive) publication HS (G) 53.

Eye/face protection: Chemical goggles.

Skin protection: Wear suitable protective clothing and gloves. PVC or rubber gloves. For example, EN374-3. Wear suitable overalls.

Environmental Exposure: The primary hazard of sodium silicate is the alkalinity. Avoid generation of dust. Avoid release to the environment.

[cont...]

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties:

Appearance:	Powder. Granules. White.
Odour:	Odourless.
Odour threshold (ppm):	Not applicable.
pH (Value):	Strongly alkaline.
Freezing Point (°C):	Not applicable.
Melting Point (°C):	72.2
Boiling Point (°C):	Not applicable.
Flash Point (°C) [Closed cup]:	Not applicable.
Evaporation rate:	Not applicable.
Flammability (solid, gas):	Not applicable.
Explosive limit ranges:	Not applicable.
Vapour Pressure (mm Hg):	Not applicable.
Vapour Density (Air=1):	Not applicable.
Density (g/ml):	No data.
Solubility (Water):	Soluble.
Solubility (Other):	No data.
Partition Coefficient:	No data.
Auto Ignition Temperature (°C):	Not applicable.
Decomposition Temperature (°C):	Not applicable.
Viscosity (mPa.s):	Not applicable.
Explosive properties:	Not applicable.
Oxidising Properties:	Not applicable.
Other information:	No data.

10. STABILITY AND REACTIVITY

Reactivity: See Section: 10.3

Chemical stability: This product is hygroscopic.

Possibility of hazardous reactions: When arc welding vessels containing aqueous solutions of this material, take care to control any explosion risk from hydrogen evolved by electrolysis. Aqueous solutions will react with aluminium, zinc, tin and their alloys evolving hydrogen gas which can form explosive mixture with air. Can react violently if in contact with acids. Can react with sugar residues to form carbon monoxide.

Conditions to avoid: See Section: 10.3

Incompatible materials: See Section: 10.3

Hazardous decomposition product(s): None known.

[cont...]

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects:

Acute toxicity:

Ingestion:	Material will cause chemical burns. All symptoms of acute toxicity are due to high alkalinity. Oral LD50 (rat) 1152-1349 mg/kg bw
Inhalation:	Dust is severely irritant to the respiratory tract. All symptoms of acute toxicity are due to high alkalinity. Inhalation LC50 (rat) >2.06 g/m3
Skin Contact:	Material will cause chemical burns. Dermal LD50 (rat) >5000 mg/kg bw
Eye Contact:	Material will cause chemical burns. May cause permanent damage if eye is not immediately irrigated.
Skin corrosion/irritation:	Corrosive to : Skin.
Serious eye damage/irritation:	Corrosive to: eyes.
Sensitisation:	Not sensitising. (LLNA)No data available
Mutagenicity:	No evidence of genotoxicity. In vitro/in vivo negative.
Carcinogenicity:	No structural alerts.
Reproductive toxicity:	No evidence of reproductive toxicity or developmental toxicity.
STOT-single exposure:	Irritating to respiratory system.
STOT-repeated exposure:	Repeat dose oral studies were not associated with any evidence of systemic target organ toxicity. NOAEL oral (rat) 227 mg/kg bw/d
Aspiration hazard:	Not classified
Other information:	Not applicable

12. ECOLOGICAL INFORMATION

Toxicity:	Fish (Brachydanio rerio) LC50 (96 hour) 210 mg/l. Aquatic invertebrates: (Daphnia magna) EC50 (48 hour) 1700 mg/l (by analogy.
Persistence and degradability:	Inorganic. Soluble silicates, upon dilution, rapidly depolymerise into molecular species indistinguishable from natural dissolved silica.
Bio accumulative potential:	Inorganic. The substance has no potential for bioaccumulation.
Mobility in soil:	Not applicable.

Results of PBT and vPvB assessment: Not classified as PBT or vPvB.

Other adverse effects:	The alkalinity of this material will have a local effect on ecosystems sensitive to changes in pH.

[cont...]

13. DISPOSAL CONSIDERATIONS

Waste treatment methods: Dispose of this material and its container to hazardous or special waste collection point. This material is classified as hazardous waste under EEC Directive 91/689/EEC (and amendments). This material is classified as hazardous waste under the Hazardous Waste (England and Wales) Regulations SI 2005 No. 894. Disposal should be in accordance with local, state or national legislation.

14. TRANSPORT INFORMATION

UN Number: 3253
Proper Shipping Name: Disodium Trioxosilicate
Transport hazard class: 8
Packing group: III
Environmental hazards: Not classified as a Marine Pollutant.
Special precautions for users: Unsuitable containers: Aluminium
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable.

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture:
TSCA Inventory Status: Reported/Included. AICS Inventory Status: Reported/Included. DSL/NDSL Inventory Status: Reported/Included. German Water Hazard Classification VwVwS: Product ID number 847, WGK class 1 (low hazard to water).

Chemical safety assessment: Information available on request.

Note: The regulatory information given above only indicates the principal regulations specifically Applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.

16. OTHER INFORMATION

Risk Phrases:
R34: Causes burns.
R37: Irritating to respiratory system.

Safety Phrases:
S1/2: Keep locked up and out of the reach of children.
S13: Keep away from food, drink and animal feeding stuffs.
S24/25: Avoid contact with skin and eyes.
S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.
S45: In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).

GHS Classification No. 1272/2008 Danger. Skin Corr. 1B/Eye Dam. 1. STOT SE 3. Met. Corr. 1

[cont...]

Hazard statement(s):

H314: Causes severe skin burns and eye damage.
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H290: May be corrosive to metals.

Precautionary statement(s):

P261: Avoid breathing dust.
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P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Legal disclaimer:

The information contained in this SDS does not constitute a risk assessment, and should not replace the user's own assessment of risks as required by other health and safety legislation. This advice is given by Nexchem Ltd who accept no legal liability for it except otherwise provided by law. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties.