

SAFETYDATASHEET

SODIUM METASILICATE ANHYDROUS

IDENTIFICATION OF THE SUBSTANCE

CHEMICAL NAME Sodium metasilicate anhydrous
Disodium trioxo Silicate
FORMULA Na_2SiO_3
CASN°: 6834-92-0
CHEMICAL FAMILY: Soluble sodium silicates with molar ratio of 1.0

USE OF THE SUBSTANCE

The uses of alkali metal silicates are manifold and can only be illustrated by selected important
Raw materials for industrial products (silica sols, silica gels, precipitated silicas, zeolites, aluminosilicates, magnesium silicates, synthetic clays, ceramics, and catalysts)

- ▶ **Detergents** (fabric washing powders, dishwasher detergents, industrial cleansing agents)
- ▶ **Adhesives and binders** (paperboard and cardboard, coal dust briquettes, roofing tiles, bricks and ceramics, refractory cements, plasters and mortars, foundry molds and cores, and welding rods)
- ▶ **Surface Coatings** (TiO_2 production, concrete, paints for masonry and glass surfaces, fire-proof glass, spraycoating in tunnel construction and mining)
- ▶ **Pulp and paper manufacture** (deinking and bleaching)
- ▶ **Water Treatment** (corrosion protection)
- ▶ **Civil Engineering** (soil sealing and stabilization in drilling, tunnelling, and mining, sealing of landfills, building pits, and coastline stabilization)
- ▶ **Enhanced Oil Recovery** (oil flow improvers)
- ▶ **Textile processing** (bleach and dye stabilizer)
- ▶ **Ceramic products** (liquefying agent in porcelain slips)

2. INFORMATION ON INGREDIENTS

COMPOSITION

100% disodium trioxosilicate CASN°: 6834-92-0
Einecs-Nr 229-912-9

CLASSIFICATION

C (corrosive): R34: Causes burns
R37: Irritation to respiratory system



3. HAZARD IDENTIFICATION

- strongly alkaline product
- Corrosive to eyes and skin
- Irritating to respiratory system

GENERAL INFORMATION

- Speed in removal of material is of prime importance
- Remove soiled clothing immediately
- Workplace should be equipped with shower and eye rinsing apparatus
- Medical attention required

SYMPTOMS AND EFFECTS

Causes burns. Irritating to respiratory system. Causes injury to the cornea and eyelids. Ingestion of product (or formulations containing > 10% of this product) can result in serious injury to health.

- Ingestion: If the victim is conscious, rinse the mouth, allow water to be drunk
- Do not induce vomiting
- Inhalation : Bring to fresh air, rinse mouth and nose with fresh water
- Skin contact : Remove material and contaminated clothing. Wash off with plenty of water
- Eye contact : Immediately rinse thoroughly with water during 15 minutes

MEDICAL ATTENTION REQUIRED

5. FIRE-FIGHTING MEASURES

THE PRODUCT IS NON FLAMMABLE

- Suitable extinguishing media: Not applicable. Inorganic material. Not combustible, therefore define extinguishing measures according to neighboring conditions
- Exposure hazards arising from material or its combustion products : none
- Special protective fire-fighting equipment: none

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS

- Avoid contact with skin and eyes, do not breathe dust. See title 8
- Spillages can cause slippery situation • Keep away from food, drink and animal feeding stuffs

ENVIRONMENTAL PRECAUTIONS

Do not allow to enter drains or water courses. Prevent the spreading of the product into the environment by diking with soil or other absorbent material

- Contact the authorities in case of large spillage

METHODS OF CLEANING

Collect as much as possible in a (clean) container or by absorbent material

- Remove last traces by diluting with plenty of (warm) water
- See also title 13

7. HANDLING AND STORAGE

HANDLING

Avoid the creation of dust, do not breathe dust

- Avoid contact with the concentrated product, see title 8
- Wash thoroughly after handling

STORAGE

Keep packaging / storage vessel closed

- Protect packaging from freezing, rain or direct sun
- Keep away from acids
- Compatible materials : (Stainless) steel
- Incompatible materials : Zinc, Tin, Aluminum, Copper and their alloys
- See also title 10

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLE

⇒ Engineering measures / system design such as to prevent formation of or exposure to dust.

PERSONAL PROTECTION

- ⇒ Respiratory protection : in the eventual risk of dust formation, prevent breathing of the dust (respirator with filter P2)
 - Hand protection : wear alkaline resistant gloves (natural latex), type EN 374, cat 3
Breakthrough time < 0.9 · g/cm /min
 - Eye protection : wear suitable tightly fitting goggles
 - Skin protection : wear suitable protective clothing

9. PHYSICAL AND CHEMICAL PROPERTIES

- ⇒ Appearance..... white granules, odourless, hygroscopic
- ⇒ pH..... ±12.7 (1% solution)
- ⇒ Boiling point/ range ±110°C
- ⇒ Melting point/range ±1089°C
- ⇒ Bulk density..... 1.15–1.30 kg/l
- ⇒ Water solubility complete
- ⇒ Purity 92-95%

10. STABILITY AND REACTIVITY

Stability: stable under recommended storage and handling conditions

- Conditions to avoid: Avoid prolonged contact with ambient air : hygroscopic behavior may induce Formation of lumps.
Avoid contact in concentrated form with acids.
- Materials to avoid: avoid contact with Aluminum, Zinc, Tin, Copper and their alloys
Hazardous decomposition products: Can form hydrogen if brought in contact with the above incompatible materials, causing a risk for explosion. Exothermic reaction with acids.

11. TOXICOLOGICAL INFORMATION

The hazard of sodium metasilicates, by all routes, comes from its corrosivity caused by the high alkalinity.
Ingestion : LD50 Rat : 600 - 1350 mg/kg

- Inhalation : irritating to respiratory system
- Eye : Corrosive. May cause serious damage to eye, unless treated immediately
- Skin : Corrosive

12.ECOLOGICAL INFORMATION

General consideration : soluble silicates upon dilution rapidly de polymerize into molecular species indistinguishable from natural dissolved silica. They combine with ions like Ca, Mg, Fe, Al and others to end up as insoluble compounds similar to constituents of natural soils. However, the pH of most undiluted silicate solutions is above acceptable limits for direct discharge into water bodies.

- Mobility: not mobile
- Biodegradability: not applicable on inorganic substances
- Accumulation: no
- Waste disposal according national or regional regulations, neutralization prior to disposal is advisory
- Dispose contaminated packaging according national or regional regulations; preliminary cleaning with water is advisory
- EWC (European Waste Catalog) -number: 06 02 99

13.DISPOSAL CONSIDERATIONS

Waste disposal according national or regional regulations, neutralization prior to disposal is advisory
Dispose contaminated packaging according national or regional regulations,
Preliminary cleaning with water is advisory
EWC (European Waste Catalog) -number : 06 02 9

14.TRANSPORTINFORMATION

⇒UN Substance Identification Number :UN3253
⇒UN Class8
⇒UN Proper shipping name disodium trioxo silicate
⇒UN Packing groupIII
⇒This material is NOT a Marine Pollutant(IMDG/IMO:page8166-1)
⇒seetitle7.2forincompatiblematerials
EMS NO-F-A S-B



15. REGULATORY INFORMATION

- Hazard symbols: Corrosive (C)
- R-phrases :
 - ⇒ R34: Causes burns
 - ⇒ R37: Irritation to respiratory system
- S-phrases:
 - ⇒ 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 the label where possible).
 - ⇒ (only for general public applications) S2: Keep out of reach of children

16. OTHER INFORMATION

- ⇒ • The product is meant for professional / industrial use
- Restrictions : /
- Sources of key data : IUCLID