An ISO 9001:2000 Certified Company

THE POWER OF THREE[3]
PHARMCO-AAPER
AND COMMERCIAL ALCOHOLS

**Product Information (203) 740-3471 / Emergency Assistance CHEMTREC 1-800-424-9300**

# MATERIAL SAFETY DATA SHEET

# SODIUM METASILICATE ANHYDROUS

## 1. IDENTIFICATION

### 1.1. IDENTIFICATION OF THE SUBSTANCE

CHEMICAL NAME :.....Sodium metasilicate anhydrous
Disodiumtrioxosilicate
FORMULA :.....Na2SiO3
CAS N° :.....6834-92-0
CHEMICAL FAMILY :.....Soluble sodiumsilicates with molar ratio of 1.0

### 1.2. USE OF THE SUBSTANCE

**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, spray-coating in tunnel construction and mining)
**Pulp and paper manufacture** (deinking and bleaching)
**Water Treatment** (corrosion protection)
**Civil Engineering** (soil sealing and stabilisation in drilling, tunnelling, and mining, sealing of landfills, building pits, and coastline stabilisation)
**Enhanced Oil Recovery** (oil flow improvers)
**Textile processing** (bleach and dye stabilizer)
**Ceramic products** (liquefying agent in porcelain slips)

### 1.3. IDENTIFICATION OF THE COMPANY


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## 2. INFORMATION ON INGREDIENTS

### 2.1. COMPOSITION

100% disodiumtrioxosilicate.....CAS N° : 6834-92-0
Einecs-Nr 229 – 912 – 9

### 2.2. 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

# 4. FIRST AID MEASURES

## 4.1. GENERAL INFORMATION

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

## 4.2. 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 victime is conscience, rince the mouth, allow water to be drunk
Do not induce vomitting
- Inhalation : Bring to fresh air, rince mouth and nose with fresh water
- Eye contact : Immediately rinse thoroughly with water during 15 minutes
- Skin contact : Remove material and contaminated clothing. Wash off with plenty of water

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 neighbouring conditions
- Exposure hazards arising from material or its combustion products : none
- Special protective fire-fighting equipment: none

# 6. ACCIDENTAL RELEASE MEASURES

## 6.1. PERSONAL PRECAUTIONS

- Avoid contact with skin and eyes, do not breath dust. See title 8
- Keep away from food, drink and animal feedingstuffs.
- Spillages can cause slippery situations

## 6.2. 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

## 6.3. METHODS OF CLEANING

- Collect as much as possible in a (clean) container or by absorbent material
- See also title 13
- Remove last traces by diluting with plenty of (warm) water

# 7. HANDLING AND STORAGE

### 7.1. HANDLING

- Avoid the creation of dust, do not breathe dust
- Wash thoroughly after handling
- Avoid contact with the concentrated product, see title 8

### 7.2. STORAGE

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

# 8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

### 8.1. EXPOSURE CONTROLE

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

### 8.2. 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 µg/cm²/min
- Eye protection : wear suitable tightly fitting goggles
- Skin protection : wear suitable protective clothing

# 9. PHYSICAL AND CHEMICAL PROPERTIES

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

# 10. STABILITY AND REACTIVITY

- Stability : stable under recommended storage and handling conditions
- Conditions to avoid : Avoid prolonged contact with ambient air : hygroscopic behaviour may induce formation of lumps. Avoid contact in concentrated form with acids.
- Materials to avoid : avoid contact with Aluminum, Zinc, Tin, Cupper and their alloys
- Hazardous decomposition products : Can form hydrogen if brougt 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 alcalinity.

- Ingestion : LD50 Rat : 600 - 1350 mg/kg
- Eye : Corrosive. May cause serious damage to eye, unless treated immediately
- Skin : Corrosive
- Inhalation : irritating to respiratory system

# 12. ECOLOGICAL INFORMATION

 General consideration : soluble silicates upon dilution rapidly depolymerise 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 waterbodies.

 Mobility : not mobile

$LC_{50}$ Fish : 3185mg product/litre (by analogy with sodiumsilicate with MR 3.36, 35%)

 Accumulation : no

$EC_{50}$ Bacteria : > 1000mg product/litre (by analogy with sodiumsilicate with MR 3.36, 35%))
$EC^{50}_{50}$ Daphnia: 4857mg product/litre (by analogy with sodiumsilicate with MR 3.2, 35%)

 Ecotoxicity :

 Biodegradability : not applicable on inorganic substances

# 13. DISPOSAL CONSIDERATIONS

 Waste disposal according national or regional regulations, neutralisation prior to disposal is advisory

 EWC (European Waste Catalog) -number : 06 02 99

 Dispose contaminated packaging according national or regional regulations, preliminary cleaning with water is advisory

# 14. TRANSPORT INFORMATION

 UN Substance Identification Number : UN 3253

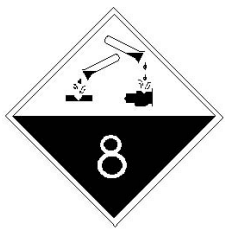
 UN Class : .....8

 UN Proper shipping name : .....disodiumtrioxosilicate

 UN Packing group : .....III

 This material is NOT a Marine Pollutant (IMDG/IMO: page 8166-1)

 see title 7.2 for incompatible materials




# 15. REGULATORY INFORMATION

• Hazard symbols : Corrosive (C)

• R-phrases :

 R34 : Causes burns

 R37 : Irritation to respiratory system

• S-phrases :

 S36/37/39 : Wear suitable protective clothing, gloves and eye/face protection

 (only for general public applications S2 : Keep out of reach of children)

 S45: In case of accident or if you feel unwell, seek medical advice immediately (show the lable where possible).

 S24/25: Avoid contact with skin and eyes.

 S13: Keep away from food, drink and animal feedingstuffs.

# 16. OTHER INFORMATION

The information contained herein is based on data considered to be accurate. However, no warranty is expressed regarding the accuracy of these data or the results to be obtained from the use thereof. It is the user's obligation to determine the conditions of safe use of the product.