

## MATERIAL SAFETY DATA SHEET

### 1. Product and company identification

**Identification of the substance or mixture**

Product name : ST5  
 Chemical name : Preparation  
 Chemical family : Alkali Hydroxides  
 UN number : UN1719  
 Company Address :



Emergency telephone number : 031 700 4220

**CAUTION** : Do not ingest / drink, bring into contact with skin and eyes, or inhale / breathe the product.

### 2. Composition/information on ingredients

Substance/preparation : Preparation

Ingredient name	CAS number	%	EC number	Classification
Sodium hydroxide See Section 16 for the full text of the R-phrases declared above.	1310-73-2	50 - 75	215-185-5	C; R35

All ingredients classified as hazardous to health or the environment, within the current knowledge of the supplier and in the concentrations applicable, have been reported above, in compliance with the Occupational Health and Safety Act 85 of 1993.

Please refer to Section 3 for the classification of the final product, as supplied.

### 3. Hazards identification

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification : C; R35  
 Human health hazards : Causes severe burns.  
 Additional hazards : None known.

### 4. First aid measures

**Inhalation** : Get medical attention immediately. Move exposed person to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

## 4. First aid measures

- Ingestion** : Get medical attention immediately. Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Get medical attention immediately. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 15 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Eye contact** : Get medical attention immediately. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 15 minutes. Chemical burns must be treated promptly by a physician.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
- Notes to physician** : For specialist medical advice in the event of an emergency contact 0800 7368800.

## 5. Fire-fighting measures

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.
- Special exposure hazards** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.  
Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Hazardous combustion products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
metal oxide/oxides
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

## 6. Accidental release measures

- Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

## 6. Accidental release measures

- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.
- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

## 7. Handling and storage

- Handling** : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Keep away from acids. Empty containers retain product residue and can be hazardous.
- Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Separate from acids. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## 8. Exposure controls/personal protection

### Exposure limit values

#### Ingredient name

#### Occupational exposure limits

No exposure limit value known.

### Exposure controls

#### Occupational exposure controls

- If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

#### Hygiene measures

- Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

## 8. Exposure controls/personal protection

- Respiratory protection** : Where exposures are below the established exposure limit, no respiratory protection is required. When established limits are exceeded, or misting may occur in the work area, a NIOSH approved respirator may be required. Use a respirator approved for the material and level of exposure. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
- Hand protection** : Use Chemical Resistant Gloves.
- Eye protection** : Chemical splash-proof goggles must be worn when handling any chemical product.
- Skin protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved.

## 9. Physical and chemical properties

- Physical state** : Liquid.
- Color** : Brown. [Dark]
- pH** : >12
- Boiling point** : >100°C (>212°F)
- Flash point** : Closed cup: 65°C (149°F)
- Density** : 1.39 to 1.41 g/cm<sup>3</sup>
- Solubility** : Easily soluble in the following materials: cold water and hot water.

## 10. Stability and reactivity

- Stability** : The product is stable.
- Conditions to avoid** : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## 11. Toxicological information

### Potential acute health effects

- Skin contact** : Causes severe burns.
- Eye contact** : Causes serious eye damage.

Product/ingredient name	Result	Species	Dose	Exposure

**Potential chronic health effects** : No known significant effects or critical hazards.

### Over-exposure signs/symptoms

- Ingestion** : Adverse symptoms may include the following:  
stomach pains
- Skin** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur
- Eyes** : Adverse symptoms may include the following:  
pain  
watering  
redness

## 12. Ecological information

**Environmental effects** : No known significant effects or critical hazards.

### Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
Sodium hydroxide	-	Acute EC50 40.38 mg/l Fresh water	Crustaceans - Water flea - Ceriodaphnia dubia - Neonate	48 hours
	-	Acute LC50 125 ppm Fresh water	Fish - Western mosquitofish - Gambusia affinis - Adult	96 hours




## 13. Disposal considerations

**Methods of disposal** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

**Hazardous waste** : The classification of the product may meet the criteria for a hazardous waste.

## 14. Transport information

### International transport regulations

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
<b>SANS 10228</b>	UN1719	CAUSTIC ALKALI LIQUID, N.O.S.	8	III		<b>Hazard identification number</b> 80  <b>Limited quantity</b> 5 L  <b>Special provisions</b> 274  <b>Tunnel code</b> (E)
<b>IMDG</b>	UN1719	CAUSTIC ALKALI LIQUID, N.O.S. (sodium hydroxide)	8	III		<b>Emergency schedules (EmS)</b> F-A, S-B
<b>IATA</b>	UN1719	Caustic alkali liquid, n. o.s. (sodium hydroxide)	8	III		<b>Passenger and Cargo Aircraft</b> Quantity limitation: 5 L Packaging instructions: 852 <b>Cargo Aircraft Only</b> Quantity limitation: 60 L Packaging instructions: 856 <b>Limited Quantities - Passenger Aircraft</b> Quantity limitation: 1 L Packaging instructions: Y841  <b>Special provisions</b> A3, A803

ST5

## 14. Transport information

PG\* : Packing group

## 15. Regulatory information

Hazard symbol or symbols :



Corrosive

Risk phrases : R35- Causes severe burns.

Safety phrases : S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

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).

Chemical Weapons Convention List Schedule I Chemicals : Not listed

Chemical Weapons Convention List Schedule II Chemicals : Not listed

Chemical Weapons Convention List Schedule III Chemicals : Not listed

## 16. Other information

Full text of R-phrases assigned to ingredients and/or final product : R35- Causes severe burns.

Full text of classifications assigned to ingredients and/or final product : C - Corrosive

National Fire Protection Association (U.S.A.) :



NFPA Key:

Health (Blue)	Flammability (Red)	Reactivity (Yellow)
4 Danger - May be fatal on short exposure. Specialised protective equipment required.	4 Danger - Flammable gas or extremely flammable liquid.	4 Danger - Explosive material at room temperature.
3 Warning - Corrosive or toxic. Avoid skin contact or inhalation.	3 Warning - Flammable liquid flash point below 37 deg. C (100 deg. F)	3 Danger - May be explosive if shocked, heated under confinement or mixed with water.
2 Warning - May be harmful if inhaled or absorbed.	2 Caution - Combustible liquid flash point of 37 deg. C – 93 deg. C (100 deg. F – 200 deg. F)	2 Warning - Unstable or may react violently if mixed with water.
1 Caution - May be irritating.	1 Combustible if heated.	1 Caution - May react if heated or mixed with water but not violently.

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**16. Other information**

0 No unusual hazards.

0 Not combustible.

0 Stable - Not reactive when mixed with water.

**Date of issue** : 11/11/2016.**Version** : 3**Notice to reader**

*The information on this Material Safety Data Sheet reflects the latest information and data that we have on hazards, properties and handling of this product under the recommended conditions of use. Any use of this product or method of application which is not described in the Product Data Sheet is the responsibility of the user. This Material Data Safety Sheet was prepared to comply with the Hazardous Chemical Substance Regulations of the Occupational Health & Safety Act (OHSA). While some components are confidential information and proprietary rights of the Seller or its principal, all known OHSA requirements are disclosed in this sheet.*

**Disclaimer**

*The Seller warrants that the product/s supplied conform/s to its chemical description and is reasonably fit for the purpose referred to in the directions for use when used in accordance with the directions under normal conditions. The Purchaser assumes the risk of any use contrary to such directions. The Seller makes no other warranty or representations of any kind, express or implied, concerning the product, including **NO IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS OF THE GOODS FOR ANY OTHER PARTICULAR PURPOSE**. No such warranties shall be implied by law and no agent of Seller is authorised to alter this warranty in any way except in writing with a specific reference to this warranty. The exclusive remedy against the Seller shall be a claim for damages not to exceed the purchase price of the product, without regard to whether such a claim is based upon breach of contract/warranty or delict. Any dispute, controversy or claim arising out of this contract or breach thereof, shall be settled by arbitration in accordance with the provisions of the Arbitration Act No. 1965 as amended. The parties shall agree upon an arbitrator, failing which an arbitrator shall be nominated by the President of the Kwa Zulu-Natal Law Society. The Seller shall under no circumstances whatsoever be liable for any loss of profit or any damage, direct or indirect, consequential or otherwise sustained by the Purchaser, whether or not caused by the ordinary negligence of the supplier, or employees.*