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AlfaCaus

1. Product and Company identification

Trade Name:	Supplier:	Manufacturer:
AlfaCaus	ALFA LAVAL AB	Henkel Norden AB
	Box 74	Box 339
Product Type:	SE-221 00 Lund	SE-431 24 Mölndal
Cleaning agent for heat exchangers	Sweden	Sweden
	Tel: +46 46 36 65 00	

Emergency number: +46 31 771 94 50

2. Composition and Information on the Components

Contains caustic alkali sequestrants and surfactants.

Certain ingredients are classified under current regulations on the basis of health effects, physico-chemical properties or environmental effects and are present at concentrations above the exemption limits. These are as follows:

Hazardous ingredient	Weight-%	CAS No	Classification	Risk Phrases
Sodium hydroxide	10-20	1310-73-2	C	R35
R35	Causes severe burns			

3. Hazard Identification

Caustic alkaline mixture which is corrosive to all parts of the body.
Eye contact is particularly serious and may cause permanent damage.

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4. First Aid Measurements

First aid – Skin contact	Remove contaminated clothing immediately. Drench the affected area with water and continue thorough washing with soap and water. Get medical attention.
First aid – Eye contact	Flush eyes with large quantities of cool water holding eyelids apart. Continue irrigation for at least 10 minutes. GET MEDICAL ATTENTION IMMEDIATELY Caustic alkaline solutions are very damaging to the eyes.
First aid – If Swallowed	Rinse mouth with water. Provided the patient is conscious, give several glasses of water to drink. DO NOT INDUCE VOMITING, GET MEDICAL ATTENTION IMMEDIATELY Never give anything by mouth to an unconscious person.
First aid – Inhalation	The constituents of the product as supplied have low volatility and the likelihood of inhalation will only occur if the product enters the atmosphere as a spray mist. However, if inhalation should occur proceed as follows : Move to fresh air, Keep affected person warm and rested. GET MEDICAL ATTENTION IMMEDIATELY

5. Fire Fighting Measurements

Extinguishing media	All extinguisher types can be used, select on the basis of other materials present.
Special hazards of product	Non flammable. If involved in a fire, toxic fumes may be given off.
Protective equipment for fire fighting	Firefighters should wear self contained breathing apparatus. All other persons in the vicinity should be evacuated.

6. Accidental Release Measures

Personal precautions	Wear the protective clothing detailed in Section 8 and clear the area immediately of all personnel not so protected.
Spillage	Water can be used if the washings will go to drains connected to an effluent system with facilities for neutralising alkali. Use as large a quantity of water as possible. Alternatively, the spillage should be ringed with sand, earth or other inert absorbent and gradually soaked up. Collect solid residues and place in labelled polythene bags; refer to a specialist waste contractor for safe disposal. Any small residues should be hosed to drain with plenty of water, but note that before discharge, the effluent may need to be treated so that it is within Water Authority consent limits. Do not contaminate surface water drains or natural watercourses. If a significant quantity of the product enters surface water drains or watercourses, inform the appropriate water authority or national regulatory body immediately. Spills will make floors very slippery.

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7. Handling and Storage

Handling	Avoid all contact with skin and eyes. When handling, follow good industrial hygiene practices. Handle only in conditions of good ventilation. Wear the personal protective equipment (PPE) specified in Section 8.
Storage	Store in a cool, dry, well ventilated area away from foodstuffs. Store away from acids.

8. Exposure Control / Personal Protection

The product contains hazardous ingredients. The Occupational Exposure Limits (OEL) quoted in EH40 or by the manufacturers/suppliers are as follows:

Substance	LTEL			STEL		Notes
	% wt/wt	8 hr ppm	TWA* mg/cu.m	15min ppm	Ref** mg/cu.m	

Sodium hydroxide	20 max.	-	-	-	2	A
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* Long term exposure limit - 8 hour time weighted average reference period.

** Short term exposure limit - 15 minute reference period.

Notes: A - Approved Occupational Exposure Standard.

Respiratory protection	Environmental controls must be adequate to maintain atmospheric concentration below the OEL at all times, otherwise respiratory protection must be worn.
Hand protection	Use PVC gloves.
Eye protection	Use chemical goggles and/or a face shield.
Body protection	Use apron and rubber boots
Other	Safety showers and eye wash stations should be provided.

9. Physical and Chemical Properties

Appearance	Colourless to straw coloured liquid
Odour	None
Specific Gravity	1.2 approximately
Solubility in water	Completely miscible
pH of 5% solution	12-13
Flammability	Non-flammable
Oxidising Properties	None

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10. Stability and Reactivity

Stability	Stable at ambient temperature.
Materials to avoid	Reacts vigorously with acids. Will attack aluminium, tin, zinc and alloys of these metals with possible liberation of flammable hydrogen gas which may form an explosive mixture with air. May react violently with chlorinated hydrocarbons. Strong heating may yield hazardous decomposition products.

11. Toxicological Information

Strongly alkaline caustic product which will cause chemical burns and ulceration if skin contact is prolonged or treatment is delayed. Caustic burns are slow to heal and may leave a scar. Ingestion of caustic alkali causes severe damage to the mucous membranes or deeper tissue of the mouth, throat, oesophagus and stomach. Death may result from subsequent penetration into vital areas. For sodium and potassium hydroxides, the estimated fatal dose for man is 5 grams. Eye contact will cause severe irritation and may cause permanent damage. The product will only cause irritation and possible damage to the respiratory tract or other harmful effects if introduced into the atmosphere as particles or spray mist which are then inhaled. Equipment in which the product is used must be fitted with an extract system to prevent escape of spray into the atmosphere around the plant.

12. Eco-toxicological Information

Non-selectively toxic to plants. Constituents of this product present a serious threat to fish and other aquatic life. Do not allow the product to enter natural watercourses. If discharged direct to drain, the high pH of this product may affect sewage treatment processes. Before discharge to drain, the working solution of this product may need to be neutralised, and any oils, solids or other specified materials removed, so that the effluent is within Water Authority consent limits. The surfactants in this product comply with the minimum 80% biodegradability requirement of EC directive 82/242 and are anticipated to be substantially removed in biological treatment processes. With proper use and disposal of this product, no adverse environmental effects are expected.

13. Disposal

Disposal of product:	All national and local legislation concerning the disposal of waste material must be complied with. Dispose of unrequired product through a registered waste disposal contractor.
Disposal of containers:	Empty but uncleaned containers must be disposed of as hazardous waste.
Disposal of used product:	Spent solutions and process sludge are best disposed of by a registered waste disposal contractor. The disposal and deposit of waste is controlled by the Environmental Protection Act 1990. The Regulations and Guidance given under this Act must be observed.

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14. Transport Information

Conveyance Classification:	Corrosive
SI (UN) Number:	1824
Proper Shipping Name:	Sodium Hydroxide Solution
Packing Group:	II
ADR Classification:	8, II
Emergency Action Code:	2R
Hazard Identification Number:	80
CEFIC Trem Card:	52/80G12
IMDG Classification:	Class 8, Page 8226
Emergency Schedule (EmS) Number:	8-06
MFAG Table Number:	705

15. Regulatory Information

Hazard Classification/Label	
Classification:	Corrosive
Label Symbol(s):	C
Named Substance(s):	Sodium hydroxide
Risk Phrases:	R35
Safety Phrases:	S26, S27, S36/37/39, S45
R35:	Causes severe burns
S26:	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S27:	Take off immediately all contaminated clothing.
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).

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16. Other Information

This Data Sheet has been written in accordance with Directives 88/379/EEC, 93/112/EC and The Chemicals (Hazard Information and Packaging for Supply) Regulations 1994 [CHIP 2 Regulations] as amended.

Reference Sources:

EH40 Occupational Exposure Limits - published annually by UK Health & Safety Executive.

Sax's Dangerous Properties of Industrial Materials, 8th edition.

Sigma-Aldrich Library of Chemical Safety Data, 2nd edition.

Material Safety Data Sheets from relevant manufacturers or suppliers.

This Safety Data Sheet does not constitute a workplace risk assessment.

All information is given in good faith but users must satisfy themselves that there are no circumstances requiring additional information or precautions or the verification of details given herein.

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