



**SAFETY DATA SHEET
AVALKSAN**

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product Name AVALKSAN

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.3. Details of the supplier of the safety data sheet

Supplier: THE CARBON GROUP
RINGASKIDDY
CORK
IRELAND
Tel: +353 21 4378988
Fax: +353 21 4378950
E-mail: info@carbon.ie
Contact Person SDS Contact: DCM Compliance, info@dcmcompliance.com

1.4. Emergency telephone number

+353 (0) 21 4378988

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)	Physical and Chemical Hazards	Not classified.
	Human health	EUH031;Skin Corr. 1A - H314
	Environment	Not classified.
Classification (1999/45/EEC)	C;R35. R31.	

2.2. Label elements

Contains: SODIUM HYDROXIDE

Label In Accordance With (Ec) No. 1272/2008



Signal Word	Danger	
Hazard Statements	H314	Causes severe skin burns and eye damage.
Precautionary Statements	P280	Wear protective gloves/protective clothing/eye protection/face protection.
	P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P310	Immediately call a POISON CENTER or doctor/physician.
Supplementary Precautionary Statements	P260	Do not breathe dust/fume/gas/mist/vapours/spray.
	P301+330+331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

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P304+340

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Supplemental Label Information (EU)

EUH031

Contact with acids liberates toxic gas.

2.3. Other hazards**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS****3.2. Mixtures**

SODIUM HYDROXIDE		10-20%
CAS-No.: 1310-73-2	EC No.: 215-185-5	
Classification (EC 1272/2008) Skin Corr. 1A - H314	Classification (67/548/EEC) C;R35.	
SODIUM HYPOCHLORITE SOLUTION		1-10%
CAS-No.: 7681-52-9	EC No.: 231-668-3	
Classification (EC 1272/2008) EUH031 Skin Corr. 1B - H314 Aquatic Acute 1 - H400	Classification (67/548/EEC) C;R34 R31 N;R50	

The Full Text for all R-Phrases is Hazard Statements are Displayed in Section 16

SECTION 4: FIRST AID MEASURES**4.1. Description of first aid measures****Inhalation.**

Remove victim immediately from source of exposure. Vapours containing chlorine or hypochlorous acid fumes (derived from hypochlorite under or acidic conditions) irritate the nose, throat and lungs causing coughing and other effects. Exposure to the mist or spray causes irritation of the nose, throat and respiratory tract. There is little hazard from properly stored solution.

Ingestion

DO NOT INDUCE VOMITING! NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS!

Remove victim immediately from source of exposure. Provide rest, warmth and fresh air. Rinse mouth thoroughly. Drink plenty of water. Get medical attention immediately!

Skin Contact

Remove affected person from source of contamination. Rinse the skin immediately with lots of water. Continue to rinse for at least 15 minutes and seek medical attention.

Eye Contact

Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes and get medical attention.

4.2. Most important symptoms and effects, both acute and delayed**General Information**

The severity of the symptoms described will vary dependant of the concentration and the length of exposure.

4.3. Indication of any immediate medical attention and special treatment needed

No recommendation given, but first aid may still be required in case of accidental exposure, inhalation or ingestion of this chemical. In if doubt, GET MEDICAL ATTENTION PROMPTLY!

SECTION 5: FIREFIGHTING MEASURES**5.1. Extinguishing media****Extinguishing Media**

The product is non-combustible. Use fire-extinguishing media appropriate for surrounding materials.

5.2. Special hazards arising from the substance or mixture

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Specific Hazards

The material is a powerful oxidising agent. When involved in fires toxic fumes can be involved

5.3. Advice for firefighters

Special Fire Fighting Procedures

The material is non-combustible and non-explosive. Containers should be kept cool with water spray. Decomposition is accelerated by heat and is accompanied by the evolution of oxygen, which may enhance the combustion of other flammable materials. The material is a powerful oxidising agent. When involved in fires toxic fumes can be involved, thus self-contained breathing apparatus should be worn

Protective Measures In Fire

Self contained breathing apparatus and full protective clothing must be worn in case of fire.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

6.2. Environmental precautions

6.3. Methods and material for containment and cleaning up

DO NOT touch spilled material. SMALL SPILLAGES: Dilute and wash away with large amounts of water taking care to avoid splashing.

LARGE SPILLAGES: Keep unauthorised personnel away from the immediate area. If appropriate inform the police, fire brigade, local authority and EPA. Provided run-off can be contained and neutralisation performed, wash away with plenty of water. Otherwise contain the spillage with sand or earth for subsequent disposal, diluting with water to reduce fuming. Keep away from drains and prevent from entering water courses.

6.4. Reference to other sections

Wear protective clothing as described in Section 8 of this safety data sheet.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Avoid spilling, skin and eye contact.

7.2. Conditions for safe storage, including any incompatibilities

Store in tightly closed original container in a dry, cool and well-ventilated place. Keep in original container. Sodium Hypochlorite decomposes slowly on standing with the evolution of some oxygen. The rate of decomposition can be minimised by storing the material in as cool a location as possible and out of direct sunlight. Certain metal impurities may catalyse the decomposition and contact with these should be avoided. The metals include nickel, cobalt, copper and iron. The material should be stored away from reactive chemicals. For containers the closure should have a vent to allow for the release of any oxygen evolved during storage. Bulk tanks should also be vented and suitable tank materials include certain types of rubber lined mild steel, PVC or PVC lined GRP, polyethylene and PTFE. Apart from vent and overflow connections storage tanks should be enclosed and provision made for washing out the tank with water to remove any sludge which may accumulate over a period of time.

Storage Class

Corrosive storage.

7.3. Specific end use(s)

Usage Description

Contact with eyes and skin must be avoided. An emergency shower, eyewash station and water supply should be provided at locations where accidental exposure is foreseeable, e.g. at filling/ discharge points. Ensure no possibility of contact with acids exists and materials used in handling are compatible with the product. Advice should be sought on selection.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Name	STD	TWA - 8 Hrs		STEL - 15 Min		Notes
SODIUM HYDROXIDE	WEL				mg/m ³	
SODIUM HYPOCHLORITE SOLUTION	WEL	.5 ppm	1.5 mg/m ³	1 ppm	3 mg/m ³	

WEL = Workplace Exposure Limit.

Ingredient Comments

OES = Occupational Exposure Standard.

8.2. Exposure controls

Protective Equipment



Respiratory Equipment

Breathing apparatus should be worn if required to spray or to work in aerosol mists of the product

Hand Protection

PVC or rubber gloves are recommended.

Eye Protection

If risk of splashing, wear safety goggles or face shield.

Other Protection

Wear appropriate clothing to prevent any possibility of skin contact.

Hygiene Measures

DO NOT SMOKE IN WORK AREA! Wash at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes wet or contaminated. Promptly remove any clothing that becomes contaminated. When using do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Colour	Green yellow
Odour	Characterisitic Bleach Odour.
Relative Density	1.270 - 1.290 20 Deg C
Flammability Limit - Lower(%)	NON FLAMMABLE. On decomposition O2 can be evolved.

9.2. Other information

No information required.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

10.2. Chemical stability

Stable under normal temperature conditions. The solution decomposes slowly over time with the evolution of oxygen. Factors affecting stability are as follows:

- (a) Initial concentration (decomposition rate reduces as strength decreases).
- (b) Storage temperature (lower the temperature, the lower the rate).
- (c) Presence of metallic impurities (Ni, Co, Cu, Fe all act as catalysts to increase the rate of decomposition).
- (d) pH (the pH must be kept above 10.5 and this is done by maintaining an excess of sodium hydroxide in the solution during manufacture).
- (e) Exposure to light (the solution should be stored in opaque containers out of direct sunlight).

On mixing with acids the material decomposes violently with the rapid evolution of chlorine gas. Explosive reactions can occur with ammonia and ammonium compounds. No reactions occur with other alkalis. The material reacts with the generation of heat and liberation of oxygen when in contact with sodium or hydrogen peroxides. With other oxidising agents a reaction occurs with the possible evolution of oxygen of chlorine. The material is highly corrosive to most metals and to painted or varnished surfaces. Organic matter is readily oxidised and dangerous reactions are possible with alcohols, aldehydes, ketones, unsaturated hydro and halo-carbons.

10.3. Possibility of hazardous reactions

10.4. Conditions to avoid

10.5. Incompatible materials

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Materials To Avoid

On mixing with acids the material decomposes violently with the rapid evolution of chlorine gas. Explosive reactions can occur with ammonia and ammonium compounds. No reactions occur with other alkalis. The material reacts with the generation of heat and liberation of oxygen when in contact with sodium or hydrogen peroxides. With other oxidising agents a reaction occurs with the possible evolution of oxygen or chlorine. The material is highly corrosive to most metals and to painted or varnished surfaces. Organic matter is readily oxidised and dangerous reactions are possible with alcohols, aldehydes, ketones, unsaturated hydro and halo-carbons

10.6. Hazardous decomposition products

Fire creates: Toxic gases/vapours/fumes of: Carbon monoxide (CO). Carbon dioxide (CO₂). Oxides of: Phosphorus.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Toxic Dose 1 - LD 50 13000 (5.25% soln) mg/kg (oral rat)

Toxic Dose 2 - LD 50 5000 (12.5% soln) mg/kg (oral rat)

Inhalation

Vapours containing chlorine or hypochlorous acid fumes (derived from hypochlorite under or acidic conditions) irritate the nose, throat and lungs causing coughing and other effects. Exposure to the mist or spray causes irritation of the nose, throat and respiratory tract. There is little hazard from properly stored solution.

Eye Contact

No specific health warnings noted.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity:

The material is highly toxic to aquatic life even at very low concentrations. 1 ppm available chlorine is toxic to all fish. 0.4 ppm available chlorine is toxic to game fish.

12.1. Toxicity

12.2. Persistence and degradability

Degradability:

No data available.

12.3. Bioaccumulative potential

Bioaccumulative Potential:

Not known.

12.4. Mobility in soil

Mobility:

Not known.

12.5. Results of PBT and vPvB assessment

12.6. Other adverse effects

Not known.

SECTION 13: DISPOSAL CONSIDERATIONS

General Information

Small quantities of material can be disposed of by treating with sodium sulphite or sodium thiosulphate and flushing to drain having first ensured total dechlorination of the resulting solution. For large quantities a specialist waste disposal firm should be employed.

13.1. Waste treatment methods

Dispose of waste and residues in accordance with local authority requirements.

SECTION 14: TRANSPORT INFORMATION

14.1. UN number

UN No. (ADR/RID/ADN) 3266

UN No. (IMDG) 3266

UN No. (ICAO) 3266

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14.2 UN Proper shipping name

Proper Shipping Name CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (SODIUM HYDROXIDE, SODIUM HYPOCHLORITE SOLUTION)

14.3 Transport hazard class(es)

ADR/RID/ADN Class 8
ADR/RID/ADN Class Class 8: Corrosive substances.
ADR Label No. 8
IMDG Class 8
ICAO Class/Division 8
Transport Labels



14.4. Packing group

ADR/RID/ADN Packing group II
IMDG Packing group II
ICAO Packing group II

14.5. Environmental hazards

Environmentally Hazardous Substance/Marine Pollutant
No.

14.6. Special precautions for user

EMS F-A, S-B
Emergency Action Code 2X
Hazard No. (ADR) 80
Tunnel Restriction Code (E)

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Legislation

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

15.2. Chemical Safety Assessment

SECTION 16: OTHER INFORMATION

Revision Date 23/06/2011
Revision 2
Supersedes Date 27/09/2010
Risk Phrases In Full
R34 Causes burns.
R35 Causes severe burns.
R31 Contact with acids liberates toxic gas.
R50 Very toxic to aquatic organisms.

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Hazard Statements In Full

EUH031	Contact with acids liberates toxic gas.
H314	Causes severe skin burns and eye damage.
H400	Very toxic to aquatic life.