

SAFETY DATA SHEET AQUASOL

1. IDENTIFICATION

Trade name: Aquasol
Generic name: Sodium Chloride (NaCl)
Product type/area of use: Water-softening applications

2. INFORMATION ON COMPOSITION

Substances which give the product

<u>Its Health-risk properties</u>	<u>CAS-no</u>	<u>EINECS No.</u>
Sodium Chloride	7647-14-5	231-598-3

Sodium Chloride 99.9% min on dry basis

Composition by weight is 39.4% sodium and 60.6% chlorine.

It is treated with part per million levels of a non-toxic anti-caking additive, sodium hexacyanoferrate(II) – E535.

Dimensions (mm) 25 x 20 x 12

3. HAZARDS IDENTIFICATIONS

Inhalation: Very high concentrations of salt dust may result in inflammations of the mucous membranes of the respiratory tract.

Eye contact: Salt and salt solutions are non-toxic to the eye but concentrations much above that of tears cause a stinging sensation.

Skin contact: Dry salt and concentrated solutions can cause withdrawal of fluid from the skin and may, on prolonged contact, produce irritation.

Ingestion: Acute and chronic toxic effects can result from the ingestion of excessive amounts of either salt or brine. Salt should not be used as an emetic to induce vomiting. High concentrations produce inflammatory reactions in the gastrointestinal tract and can cause fatal disturbance of body electrolyte and fluid balance particularly in the young and elderly. Less than a tablespoon of salt may severely poison an infant and sometimes prove fatal.

4. FIRST-AID MEASURES

Inhalation: Remove patient to fresh air. Keep warm and at rest. Give drinks if desired.

Eye contact: Irrigate with eyewash solution. If symptoms develop, obtain medical help.

Skin contact: Wash with plenty of water.

Ingestion: Vomiting will probably occur. Provided the patient is conscious give plenty of liquid to drink. Obtain immediate medical attention especially if vomiting has not occurred.

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5. FIRE-FIGHTING MEASURES

Flammability: Non-flammable

Extinguishing media: Use agents suitable for type of surrounding fire (dry chemical, CO₂, Water, Spray or foam)

Special Hazards: Salt withstands temperatures up to its melting point and beyond without decomposing, but at very high temperatures (greater than approx. 800°C) a vapour may be emitted which is particularly irritating to the eyes.

Protective Equipment: As applicable to the combustion products associated with the fire.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Avoid prolonged contact with the skin and inhalation of dust concentrations, otherwise normal good handling and housekeeping practice is adequate. No special protective clothing is required. An eyewash bottle with clean water should be available.

Spillages: Spillages should be swept up or may be safely water-hosed to drain under normal circumstances.

7. HANDLING AND STORAGE

Handling: Salt dust is non-flammable but static electricity can be generated by pneumatic conveying, therefore pipes should be bonded and earthed, especially in environments where a spark could prove hazardous.

Storage: Due to its hygroscopic nature, dried vacuum salt should be stored in a dry atmosphere and away from concentrated acids. Absorbs moisture if the relative humidity is above 75%.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure control

Occupational Exposure Limits: as total dust 10mg/m³ (8hr TWA)
(UK EH40) at respirable dust 5mg/m³ (8hr TWA)

Dangerous Exposure: None Specified

Engineering controls: Static electricity can be generated by pneumatic conveying, therefore pipes should be bonded and earthed, especially in environments where a spark could prove hazardous.

Personal protection

Respiratory protection: If the process is such that salt dust is generated, a disposable face mask should be worn.

Hand Protection: Gloves to be worn if prolonged contact is anticipated. Dry salt and concentrated solutions can cause withdrawal of fluid from the skin.

Eye Protection: Wear chemical safety goggles in situations where contact with the eyes may occur.

Skin Protection: Skin should be washed to remove salt. Dry salt and concentrated solutions can cause withdrawal of fluid from the skin.

Other Protective Measures: An eyewash and hand wash facilities should be readily available.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Crystalline Solid
Colour: White/Colourless
pH: 10.5 Approx. (10% Solution)
Boiling Point: 1413°C
Melting Point: 802°C
Flammability: Non-Flammable
Flash Point: Non-Flammable
Explosive Properties: Non-Flammable
Oxidising Properties: Not Applicable
Vapour Pressure: 2.4mm Hg @ 747°C
Density: 2.165gc/m³
(of crystalline solid @ 20°C)
Water Solubility: 35.6 g/100g @ 0°C
39.2 g/100g @ 100°C
Viscosity: Not Applicable
Vapour Density: Not Applicable

10. STABILITY AND REACTIVITY

Chemical Stability: Stable
Conditions to Avoid: Reacts with strong sulphuric acid and nitric acid to give hydrogen chloride gas.
Materials to Avoid: Under wet conditions can corrode many common metals, particularly iron, aluminium and zinc. Stainless steel and monel resist attack.
Hazardous Decomposition Products: Trace amounts of hydrogen chloride gas may be evolved at temperatures in excess of 800°C
Contains no water of crystallisation
Does not react with alkalis at ordinary temperatures

11. TOXICOLOGICAL INFORMATION

Eyes: Dusts may be irritating
Skin: Irritation after prolonged contact
Ingestion: Salt is an essential constituent of the diet. It provides important body electrolytes and is the source of hydrochloric acid present in the gastric juices. The blood stream contains nearly 1% sodium chloride. In normal industrial use salt is not hazardous.
LD₅₀ 3000 mg/kg oral, Rat
Inhalation: Dusts may be irritating.
Carcinogenity: Not considered to be a carcinogen
Mutagenicity: Not considered to be a mutagen
Reproductive effects: None identified

12. ECOLOGICAL INFORMATION

A maximum value of 412 mg/l ensures the protection of all aquatic life. Source: Water Research Centre – September 1990.

96 hours	LC	(Fish)	6750 mg/l
48 hours	EC	(Daphnia)	2024 mg/l
72 hours	IC	(Algae)	3014 mg/l
Daphnia Subacute			1062 mg/l
Fish Subacute			433 mg/l
BOD 5 Day			0 mg/l
COD			0 mg/l
Earthworm Toxicity			1000 hg/cm ²

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13. DISPOSAL CONSIDERATIONS

Disposal should be in accordance with local or national regulations.

14. TRANSPORT INFORMATION

Material not included in the “List of Substances Dangerous for Supply”

Material not included in the “List of Substances Dangerous for Conveyance by Road”

15. REGULATORY INFORMATION

User: Not classified as hazardous to users.

EEC Classification: Under the classification, packaging and labelling of Dangerous Substances Regulations, 1984, this material is not dangerous for supply or conveyance.

16. OTHER INFORMATION