



Reference No. : MSDS12
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MATERIAL SAFETY DATA SHEET

BRINE SOLUTION

1. IDENTIFICATION

Material : Sodium Chloride/Brine solution.
Common Name : Brine solution.
Chemical Formula : NaCl/H₂O.
CAS No. : 7647-14-5 **EC No.** :231-598-3

Supplier : **Micro-Bio (Ireland) Ltd.**
Address : **Industrial Estate,**
Fermoy,
Co. Cork. Ireland.

Emergency Telephone No.: (025) 31388/ (025)31006

2. COMPOSITION

Solution of Sodium Chloride in Water in water.

3. HAZARDS IDENTIFICATION

Sodium Chloride Brine presents no serious health effects in normal industrial usage. The solution may contain trace amounts of Sodium Hydroxide. Sodium Chloride is linked to heart and blood pressure problems through dietary intake. Ingestion of large amounts may cause vomiting and serious health effects. Inhalation or dermal exposure may cause mild irritation.

4. FIRST AID MEASURES

Inhalation : Remove to patient to fresh air. If any unusual symptoms obtain medical.

Skin Contact : Drench immediately with copious amounts of water. Remove contaminated clothing and continue washing the affected areas. Completely decontaminate clothing and shoes before reuse or disposal. If irritation persists or if blistering occurs obtain medical attention.

Eye Contact : Immediately flood the eye with clean water for at least 15 minutes ensuring the corners and under both eyelids are adequately flushed. Obtain medical attention for all cases where contact with the eye occurs.

Ingestion : Do not induce vomiting. Provided the patient is conscious, wash out the mouth with water and give about 500 mls of water to drink. Obtain medical attention urgently.

5. FIRE FIGHTING MEASURES

The material is non-combustible and non-explosive. An irritating vapour is released at high temperatures. Containers should be kept cool with water spray. Chlorine and Sodium Oxide are released at 1000°C.

6. ACCIDENTAL RELEASE MEASURES

Refer to points No.8 and No.13 for information on personal protective equipment and disposal.

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 E.P.A. Contain the spillage using sand or earth for subsequent disposal. Keep away from drains and prevent from entering watercourse. (i.e. rivers, canals etc.).

7. HANDLING AND STORAGE

7.1 Handling : Contact with eyes and skin must be avoided. Refer to point No. 8 for information on personal protective equipment. An emergency shower, eyewash station and water supply should be provided at locations where accidental exposure is foreseeable, e.g. at filling/discharge points.

7.2 Storage : Sodium Chloride Brine can be stored at ambient or slightly elevated temperatures. Ensure compatible materials are used. Storage tanks and containers should be banded.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Direct contact with the skin must be prevented. The generation of mists in areas where ventilation is insufficient for removal should be avoided.

Respiratory Protection : Treat as a nuisance dust.

Hand Protection : PVC or rubber gloves.

Eye Protection : Close fitting chemical goggles or full-face visor if appropriate.

Skin Protection : Cotton or PVC overalls; PVC or rubber boots.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Colourless liquid

Odour: Odourless.

pH: Approximately 6-12.

Flash Point/Flammability/Autoflammability/Explosive Properties : Non-flammable.

Oxidising Properties: Non-oxidising.

Solubility in water : Completely Soluble.

Boiling Point (°C) 107

Vapour Pressure (mmHg) N/A

Freezing Point (°C) <0°C

Specific Gravity (@ 20°C) ~1.2

Mol. Wt. : 58.44

10. STABILITY AND REACTIVITY

Chemical Stability: Normally stable. Thermally unstable at extreme temperatures.

Incompatibility : Corrosive to Steel and Iron.

Hazardous Decomposition Products : Sodium Chloride Decomposes at 1000°C into Sodium Oxide and Chlorine Gas.

Hazardous Polymerisation : Does not polymerise.

11. TOXICOLOGICAL INFORMATION

Short Term Effects of Over Exposure:

- Inhalation** : Mist may cause mild irritation of the respiratory tract.
- Skin Contact** : Direct contact with damaged skin can cause irritation.
- Eye Contact** : Causes temporary eye irritation, redness, tearing and mild pain if concentration exceeds that of normal body fluids.
- Ingestion** : Non-occupational ingestion of very large quantities has produced nausea, vomiting, diarrhoea and prostration. Dehydration and congestion occur in most internal organs. Hypertonic salt solutions can produce violent inflammatory reactions in the gastrointestinal tract. Cerebral edema, pulmonary edema, blood cell shrinkage and brain damage may also occur. Death may result from cardiovascular collapse or damage to the central nervous system.

The LD₅₀ oral rat is 3000mg/kg. The LD₅₀ oral mouse is 4000mg/kg.

Long Term Effects Of Over Exposure: High blood pressure and heart problems can result from prolonged overconsumption of Sodium Chloride. Shows no carcinogenicity, teratogenicity, embryotoxicity, reproductive toxicity or mutagenicity.

12. ECOLOGICAL INFORMATION

Ecotoxicological Information: Local phytotoxic affects only.

Ecological Fate : Normal biological component. Does not bioaccumulate.

13. DISPOSAL INFORMATION

Small quantities of material can be disposed of by running to drain. For large quantities a specialist waste disposal firm should be used.

14. TRANSPORT INFORMATION

Transport : Not classified as hazardous for transport.

15. REGULATORY INFORMATION

EC Classification : The material is not dangerous for transport or supply.

Risk Phrase (R36/37/38): Irritating to eyes, respiratory system and skin.

Safety Phrases (S26) : In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

(S36) : Wear suitable protective clothing.

16. OTHER INFORMATION

All personnel involved in the use, handling and transport of sodium chloride brine should be familiar with the first aid measures and personal protective equipment requirements associated with the material.

The material is used throughout the food, pharmaceutical and chemical industries for example as a food preservative, in the manufacture of soaps, in electrolytic processes and in water treatment.

References:

- * European agreement concerning the international carriage of dangerous goods by road (ADR) volumes I & II 1999
- * Commission Directive 93/112/EC of 10/12/93, (O.J. No. 314 of 16/12/93 pg 38)
- * Council Directive 67/548/EEC and all appropriate A.T.P'S

• Important Note:

1. Before any product is used the label should be carefully read and current safety literature and information consulted.
2. The product information in this Data Sheet is to the best of Micro-Bio's knowledge correct as at the date of publication. User should contact Micro-Bio for updated advice and in any event satisfy himself that the product is entirely suitable for his purpose.