Sodium Chloride Brine

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier: Sodium Chloride 20% Brine Solution

Chemical name: Sodium chloride solution. Formula of sodium chloride: NaCl. CAS No.: 7647-14-5. EC No.: 231-598-3.

1.2 Relevant identified use: Road de-icing / highway winter maintenance. Uses advised against: Any use not assessed by the supplier, including food, pharmaceutical or potable-water use unless specifically approved.

1.3 Supplier: J C Peacock & Co Ltd
Jura Terminal, North Harbour, Ayr, KA8 8AE,
telephone 01292 292000

1.4 Emergency telephone: 999 or 111

SECTION 2: Hazards identification

2.1 Classification of the mixture: Provisional assessment only. An aqueous sodium chloride solution made solely from sodium chloride and water would not generally be expected to meet GB CLP criteria for classification as hazardous; this must be confirmed for the actual mixture and concentration.

2.2 Label elements: No hazard pictogram, signal word or hazard statement is provisionally expected if the final mixture is confirmed not classified as hazardous under GB CLP. Potential workplace hazards: Splashes may cause temporary eye irritation. Repeated or prolonged contact may dry or irritate skin. Spilled brine can make surfaces slippery. Chloride-containing liquid can corrode susceptible metals and high salt loads can harm vegetation and freshwater environments.

2.3 Other hazards: Do not assume environmental or material compatibility is acceptable merely because the mixture is not classified as hazardous. Consider site-specific release volumes and drainage routes.

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SECTION 3: Composition/information on ingredients

Ingredient	CAS No.	EC No.
Sodium chloride	7647-14-5	231-598-3
Water	7732-18-5	231-791-2

Confirm that no corrosion inhibitors, dyes, contaminants or other substances are present.

SECTION 4: First-aid measures

Inhalation: The liquid is not expected to present an inhalation hazard in normal handling. If mist is inhaled, move the person to fresh air. Obtain medical advice if symptoms persist.

Skin contact: Remove contaminated clothing and rinse skin thoroughly with water. Seek advice if irritation persists.

Eye contact: Rinse cautiously with clean water for several minutes, holding eyelids open. Remove contact lenses if easy to do and continue rinsing. Seek medical advice if irritation persists.

Ingestion: Rinse mouth with water. Do not induce vomiting. Seek medical advice if a significant amount is swallowed or symptoms occur.

Most important symptoms/effects: Temporary eye irritation, skin dryness or irritation; gastrointestinal discomfort following substantial ingestion.

Advice to doctor: Treat symptomatically. Show this sheet if medical advice is sought.

SECTION 5: Fire-fighting measures

Suitable extinguishing media: Use extinguishing media appropriate to the surrounding fire.

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Specific hazards: The aqueous brine is not expected to be combustible. Heating may cause splashing and evaporation. Extreme heating of dried residues may generate irritating decomposition products.

Advice for firefighters: Use protective equipment appropriate to the surrounding fire. Self-contained breathing apparatus may be required where smoke, fumes or decomposition products are present.

SECTION 6: Accidental release measures

Personal precautions: Avoid eye contact and take care on slippery surfaces. Restrict access where needed and use suitable protective equipment for the spill size.

Environmental precautions: Prevent large or uncontrolled releases to drains, surface water, groundwater and soil. Notify the relevant site/environmental contact if a significant release reaches a watercourse or drain.

Containment and cleaning: Stop the leak if safe. Contain liquid with compatible bunding or absorbent material. Recover bulk liquid where practicable; collect absorbents and residues in suitable labelled containers.

After cleaning: Wash the area only where the wash-water can be managed safely and lawfully. Do not simply flush large quantities into drains.

SECTION 7: Handling and storage

Handle to minimise splashing and uncontrolled discharge. Avoid prolonged skin contact and eye contact. Follow site procedures for transferring bulk liquids.

Provide suitable containment and drainage protection during filling, unloading and transfer.

Store in a closed, clearly labelled, compatible tank or container. Protect from damage and leaks.

Assess corrosion compatibility of tanks, pumps, pipework, fittings, vehicles and application equipment. Chloride brine may corrode susceptible metals.

Keep away from incompatible materials identified by the equipment/material supplier. Prevent contamination with other chemicals.

SECTION 8: Exposure controls/personal protection

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Occupational exposure limits: No specific UK workplace exposure limit is expected for sodium chloride in aqueous solution. Assess mist/aerosol exposure and any other ingredients separately.

Engineering controls: General ventilation is normally adequate for routine handling. Use suitable controls if spraying or mist generation occurs.

Eye/face protection: Safety glasses with side protection where splashing is possible; use a face shield for higher-risk bulk transfer or spill response.

Hand protection: Select gloves compatible with the task, exposure duration and other chemicals potentially present. Follow the glove supplier's guidance.

Skin/body protection: Workwear and footwear suitable for wet, potentially slippery operations. Provide washing facilities.

Respiratory protection: Not normally expected for routine handling of the liquid. Reassess if aerosols/mists are generated or if other hazards are present.

Environmental exposure controls: Prevent avoidable release to drains and watercourses; use bunding and spill controls appropriate to storage volume.

SECTION 9: Physical and chemical properties

The values below are descriptive estimates only. Obtain measured or supplier-confirmed values before using them as product specifications.

Property	Information / status
Physical state	Liquid (assumed)
Colour / odour	Expected clear and colourless; odourless, subject to verification
pH	Not measured; determine for actual product
Concentration	Nominally 20%; w/w versus w/v not confirmed
Solubility	Sodium chloride is soluble in water; product is an aqueous solution
Density	Not measured; confirm at stated temperature
Freezing point	Not measured; depends on concentration and concentration basis
Boiling point	Not measured; depends on concentration and pressure
Flash point	Flash point not applicable to an aqueous inorganic salt solution; not expected to be flammable
Viscosity	Not measured

SECTION 10: Stability and reactivity

Reactivity: No hazardous reaction is expected under normal conditions for sodium chloride in water.

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Chemical stability: Expected to be stable under normal storage conditions; confirm for the actual product and packaging.
Possibility of hazardous reactions: None expected in normal use.
Conditions to avoid: Uncontrolled release, container damage, excessive heating and conditions that may cause corrosion or loss of containment.
Incompatible materials: Assess compatibility with susceptible metals and any chemicals that may be present at the site. Do not mix with other products unless compatibility has been assessed.
Hazardous decomposition products: Extreme heating of dry residues may produce irritating chlorine-containing decomposition products.

SECTION 11: Toxicological information

This is a qualitative assessment based on the stated ingredients, not product-specific toxicological testing.
Acute toxicity: Significant acute toxicity is not expected from ordinary incidental exposure to a simple aqueous sodium chloride solution; avoid ingestion.
Skin corrosion/irritation: Prolonged or repeated contact may cause dryness or irritation.
Serious eye damage/irritation: Splashes may cause temporary irritation.
Respiratory effects: Mist may cause mechanical irritation of the respiratory tract.
Ingestion: Large amounts may cause gastrointestinal effects and disturb electrolyte balance.
Sensitisation, mutagenicity, carcinogenicity, reproductive toxicity and specific target-organ toxicity: No classification is proposed on the basis of sodium chloride and water alone; verify mixture classification and any additional ingredient information.

SECTION 12: Ecological information

Ecotoxicity: High concentrations of salt can harm freshwater organisms and plants. Effects depend on release concentration, volume and receiving environment.
Persistence/degradability: Sodium chloride is inorganic and does not biodegrade.
Bioaccumulative potential: Conventional bioaccumulation is not expected; sodium and chloride ions can accumulate in environmental compartments.
Mobility in soil: High mobility in water is expected.
Other adverse effects: Repeated or large releases can increase salinity and damage soil, vegetation and freshwater ecosystems. Avoid uncontrolled discharge.

SECTION 13: Disposal considerations

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Product: Recover for reuse where suitable. Otherwise determine the appropriate waste route in accordance with local requirements and site procedures.

Do not discharge bulk brine or wash-water to drains, soil or surface water without confirming authorisation and environmental acceptability.

Packaging: Drain and manage containers according to their condition, contamination and local requirements.

Waste classification depends on the actual product, contamination and process use; do not assign a waste code without assessment.

SECTION 14: Transport information

Provisional assessment: A simple aqueous sodium chloride solution is not generally expected to be regulated as dangerous goods for ADR/RID, IMDG or IATA transport. Confirm the actual formulation and transport mode before shipment.

UN number: Not expected to be assigned, subject to confirmation.

UN proper shipping name: Not applicable if not regulated as dangerous goods.

Transport hazard class / packing group: Not applicable if not regulated.

Environmental hazards: Not expected to be classified as a dangerous good for transport on the basis of sodium chloride and water alone; this does not mean large releases are environmentally harmless.

Special precautions: Prevent leaks and secure containers. Consider corrosion, load restraint and spill containment.

SECTION 15: Regulatory information

Relevant framework may include UK REACH, GB CLP and the Control of Substances Hazardous to Health Regulations 2002 (COSHH), as applicable to the actual product and workplace.

Environmental permitting, drainage consent and waste requirements may apply to storage, use, wash-water and disposal.

This section is not a legal compliance determination.

SECTION 16: Other information

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Abbreviations: ADR = road transport of dangerous goods; CLP = classification, labelling and packaging; COSHH = Control of Substances Hazardous to Health; GB = Great Britain; IATA = air transport; IMDG = sea transport; REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals; RID = rail transport.

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