

MATERIAL SAFETY DATA SHEET

AUSTRALIA:

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NEW ZEALAND

Emergency Response: 0800 500 288
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Hazardous according to criteria of NOHSC Australia.

I IDENTIFICATION

This revision issued: 22 Sept 2004

Product Name: Ammonium Chloride

Other Names: Sal ammoniac, Ammonium muriate.

MSDS Code: 4851811

UN No: None allocated.

Hazchem Code: None allocated.

Dangerous Goods Class: None allocated.

Sub Risk Class: No Subsidiary Risk.

Packaging Group: None allocated.

Poison Schedule: Not Scheduled

Product Type: Inorganic solid.

Chemical Family: Ammonium salt.

Uses: Dry batteries; mordant (dyeing and printing); soldering flux; melt retarding snow treatment; fertiliser; pickling agent in zinc coating and tinning; electroplating; washing powders; resins and adhesive of urea-formaldehyde; bakery products.

Physical appearance & Properties:

Appearance & Odour: White crystalline solid. No odour.

Melting/softening point: 340°C (sublimes)

Boiling point and vapour pressure: Not applicable.

Volatile materials: Nil

Flashpoint: Does not burn.

Specific gravity: 1.57

Solubility in water: 37% at 20°C

Corrosiveness: Not corrosive. pH of 5% solution at 20°C is 4.3-5.5

Ingredients:

| Chemical entity | CAS No | Proportion % | Worksafe Exposure Limits | |
|--|------------|-----------------|--------------------------|--|
| | | | TWA mg/m ³ | STEL ₃ mg/m ³ |
| Ammonium chloride | 12125-02-9 | >99.5 | not set | not set |
| Organic surfactant (anticaking ingredient) | 61790-29-8 | 0.02 | not set | not set |
| Tricalcium phosphate | 7758-87-4 | 0.50 | not set | not set |

nb Worksafe has established a TWA value for ammonium chloride fume. However, this product differs significantly in that it is a crystalline solid.

This is a commercial product, and the exact ratio of components may vary. Trace quantities of impurities are also likely.

II HEALTH HAZARD DATA

Health Effects:

No specific data is available for the product for chronic exposure symptoms. The ingredients are not listed as carcinogenic in Worksafe's document "Exposure Standards for Atmospheric Contaminants in the Occupational Environment" (May 1995), nor in NOHSC's "List of Designated Hazardous Substances" (April 1999).

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Acute Effects:

Swallowed: Data suggests that this product is harmful if swallowed.

Eye: This product is irritating to the eyes. It will cause discomfort such as stinging pain, watering and redness of the eyes. Effects may last after exposure has ceased, and in severe exposure, long lasting or even permanent effects such as corneal damage can occur.

Skin: Data suggests that product is mildly irritating to skin.

Inhalation: Inhalation may cause irritation of the nose and throat and cause coughing and chest discomfort.

Primary route of exposure is inhalation and skin and eye contact.

First Aid:

Swallowed: If swallowed, do NOT induce vomiting. Rinse mouth with water. Give a glass of water to drink. Contact a doctor or the Poisons Information Centre if symptoms of poisoning develop.

Eye: If this product comes into contact with eyes, hold eyes open and wash continuously for 15 minutes with running water. Ensure irrigation under eyelids by occasionally lifting eyelids. Do not attempt to remove contact lenses unless trained. Transport to hospital or doctor immediately if skin irritation develops.

Skin: If this product comes into contact with skin, wash skin with soap and water for 15 minutes. Remove contaminated clothing and footwear. Ensure contaminated clothing is thoroughly washed before using again. Transport to hospital or doctor immediately.

Inhalation: If fumes or combustion products are inhaled, remove to fresh air. Lay victim down & keep warm and rested. If breathing is shallow, or has stopped, ensure clear airway and apply resuscitation or oxygen if available. Transport to hospital or doctor immediately.

Eye wash stations or baths should be available where product is being used.

Advice to doctor: Treat symptomatically. Note the nature of this product.

III PRECAUTIONS FOR USE

Risk Phrases are: R22, R36. Harmful if swallowed. Irritating to eyes.

Exposure Standards:

A time weighted average (TWA) concentration for an 8 hour day, and 5 day week has not been established by Worksafe Australia for any of the ingredients in this product. There is a blanket limit of 10mg/m³ for dusts or mists when limits have not otherwise been established. The nature of this product makes it unlikely that this level will be approached in normal use. See ingredients section on page 1 of this data sheet.

Engineering Controls:

Ventilation must be adequate to ensure that the working environment is below the TWA value. Otherwise, use respiratory protection. Some materials should only be used when respiratory protection is being worn. For information on respiratory protection, consult AS1716. See below for further information.

Personal Protection:

Respiratory Protection: It is usually safe to not use a dust mask or respirator protection on account of this product. However, if the product is being used in dusty or confined conditions, use of a mask or respirator may be preferred. For help in selecting suitable equipment, consult AS/NZS 1715.

Protective Gloves: Protective gloves (PVC, rubber) are recommended when using this product. For help in selecting suitable equipment, consult AS 2161.

Eye Protection: Protective eyewear should be worn when using this product. Eye contact may prove painful and dangerous and should be avoided. Consult AS1336 and AS/NZS 1337 for advice on Industrial Eye Protection.

Clothing: Clean overalls or protective clothing should be worn, preferably with an apron. Consult AS2919 for advice on Industrial Clothing.

Safety Boots: Wearing safety boots in industrial situations is advisory. Consult AS/NZS2210 for advice on Occupational Protective Footwear.

Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

IV SAFE HANDLING INFORMATION

Safety Phrases are: S20, S25. When using, do not eat or drink. Avoid contact with eyes.

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Storage & Transport

No special storage and transport requirements. This product has no UN classification. Not a Scheduled Poison. Containers should be kept closed in order to minimise contamination. Keep from extreme heat and open flames, and make sure that the product does not come into contact with substances listed under "Materials to avoid" below.

Spills and disposals:

In the event of a major spill, prevent spillage from entering drains or water courses. Wear full protective clothing including face mask, face shield and gauntlets. All skin areas should be covered. Thoroughly launder protective clothing before storage or re-use. See above under Personal Protection regarding Australian Standards relating to personal protective equipment. Stop leak if safe to do so, and contain spill. Absorb onto sand, vermiculite or other suitable absorbent material. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage. Recycle containers wherever possible. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. This material may be suitable for approved landfill. Dispose of only in accord with all regulations. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

Fire/Explosion Hazard:

There is no explosion hazard from this material under normal circumstances.

Flashpoint: Does not burn.

Extinguishing Media: Carbon dioxide, dry chemical or foam.

Special Fire Fighting procedures: When fighting fires involving significant quantities of this product, wear safety boots, non-flammable overalls, gloves, hat and preferably, goggles.

Unusual Fire & Explosion Hazards: This product is unlikely to decompose at temperatures normally achieved in a fire.

Stability: This product is unlikely to spontaneously decompose.

Polymerisation: This product is unlikely to spontaneously polymerise.

Decomposition Products: Oxides of nitrogen, hydrogen chloride, water.

Materials to avoid: Strong acids, strong alkalis, strong oxidising agents.

V OTHER INFORMATION

This MSDS is prepared in accord with the Worksafe Australia document "National Code of Practice for the Preparation of Material Safety Data Sheets", 1994.

It also conforms with the New Zealand OSH Guidelines for the Preparation of MSDSs (May 1995).

Contact Points:

| | | AUSTRALIA | NEW ZEALAND |
|---|-------------|--|----------------------|
| Police and Fire Brigade: | Dial | 000 | 111 |
| If ineffective: | Dial | 132203 (Exchange) | - |
| For emergency response: | Dial | 1800 625 526 | (0800)500 288 |
| National Poisons Information Centre: | Dial | 13 1126 (from anywhere in Australia) or 0800 764 766 from anywhere in New Zealand | |

THIS MSDS SUMMARISES OUR BEST KNOWLEDGE OF THE HEALTH AND SAFETY HAZARD INFORMATION OF THE PRODUCT AND HOW TO SAFELY HANDLE AND USE THE PRODUCT IN THE WORKPLACE. EACH USER SHOULD READ THIS MSDS AND CONSIDER THE INFORMATION IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE INCLUDING IN CONJUNCTION WITH OTHER PRODUCTS. IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY. THE RESPONSIBILITY FOR PRODUCTS SOLD IS SUBJECT TO OUR STANDARD TERMS AND CONDITIONS, A COPY OF WHICH IS SENT TO OUR CUSTOMERS AND IS ALSO AVAILABLE ON REQUEST.

Please read all labels carefully before using product.

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