BAILEYS FERTILISERS
AKC Pty Ltd trading as
A.B.N: 30 008 747 911

# SAFETY DATA SHEET

**PRODUCT NAME:** **SULPHATE OF AMMONIA REGULAR**

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

| | |
|---|---|
| **Other Names:** | Sulphate of Ammonia Powder; Ammonium Sulphate Regular; Ammonium Sulphate Powder; Amsul Tech Grade, SOA Regular, S.O.A Powder |
| **Recommended use:** | Fertiliser |
| **Supplier:** | Baileys Fertilisers |
| **Address:** | 24 Beach St<br>Kwinana Beach<br>Western Australia 6167 |
| **Telephone:** | (08) 9439 1688 (Monday to Friday: 8.00am – 5.00pm) |
| **Emergency Contact:** | Poisons Information Centre on 13 11 26 |
| **Facsimile:** | (08) 9439 1068 |
| **Email:** | baileys@baileysfertiliser.com.au |
| **Website:** | baileysfertiliser.com.au |

## 2. HAZARD IDENTIFICATION

**1. GHS Classification:** Classified as hazardous according to Australian Criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS).

**2. Signal Word:** **Danger**

**3. Hazard Category(s):** Carcinogenicity Category 1
Aquatic Acute Category 3
Aquatic Chronic Category 3

**4. Hazard Symbol:**

**5. Hazard Statement(s):** H350 May cause cancer
H402 Harmful to aquatic life
H412 Harmful to aquatic life with long lasting effects

**6. Precautionary Statements:**

Prevention: P201 Obtain special instructions before use.
P202 Do not handle until all precautions have been read and understood.
P281 Use personal protective equipment as required.

Response: P308 + P313 IF exposed or concerned: Get medical advice / attention.

Storage: P405 Store locked up.

Disposal: P501 Dispose of contents and container in accordance with local and national regulations.

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## 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS Number | Contents % w/w |
|---|---|---|
| Ammonium Sulphate* | 7783-20-2 | 98 - 100 |

Note: Ammonium sulphate contains the following impurities at levels in the finished product at levels that contribute to classification:

| Chemical Name | CAS Number | Contents % w/w |
|---|---|---|
| Cobalt Sulphate | 10124-43-3 | < 0.10 |
| Cobalt Sulphide | 1317-42-6 | < 0.06 |
| Nickel Sulphate | 7786-81-4 | < 0.10 |
| Nickel Sulphide | 16812-54-7 | < 0.05 |

## 4. FIRST AID MEASURES

**Eye Contact:** Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes or as advised by the Poisons Information Centre (13 11 26). Get medical attention if irritation develops or persists.

**Skin Contact:** Remove contaminated clothing immediately and wash skin with plenty of soap and running water. Get medical attention if irritation develops and persists. Wash contaminated clothing before reuse.

**Inhalation:** If dust from the material is inhaled, remove the affected person immediately to fresh air. Call a physician if symptoms develop or persist. After inhalation of decomposition products, keep patient calm, remove to fresh air and seek medical attention.

**Ingestion:** For advice, contact a poison information centre or a doctor / physician. Do not induce vomiting.

**Symptoms Caused by Exposure:** May cause an allergic skin reaction. Dermatitis. Rash. Prolonged exposure may cause chronic effects. Lung fibrosis. After inhalation of decomposition products: risk of pulmonary edema, symptoms can appear later.

**Medical Attention and Special Treatment:** Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

## 5. FIRE FIGHTING MEASURES

**Flammability:** Non-flammable.

**Extinguishing Media:** Use an extinguishing agent suitable for the surrounding fire. Do not use water jet as an extinguisher as this will spread the fire.

**Fire/Explosion Hazard:** May evolve toxic nitrogen / sulphur / nickel / cobalt oxides and ammonia when heated to decomposition. Thermal decomposition product at > 235°C: ammonia.

**General Instructions:** Use methods for the surrounding fire. Evacuate area. Stay upwind. Use water fog to cool intact containers and nearby storage areas.
High concentrations of airborne dust may form an explosive mixture with air. Prevent runoff from fire control or dilution from entering streams, sewers or drinking water supply.

**Personal Protection:** Wear self-contained breathing apparatus (SCBA) and full protective clothing.

**Hazchem Code:** None allocated.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures:** Keep unnecessary personnel away. Keep people away from and upwind of spill / leak. Wear appropriate protective equipment and

clothing during clean-up. Do not touch damage containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For person protection, see Section 8.

**Environmental precautions:** Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel or all environmental releases.

**Methods of cleaning up:** Avoid generation and spreading of dust. Stop the flow of material, if this is without risk. Sweep up or vacuum up spillage and collect in suitable container for disposal. Containers must be labelled. Prevent runoff from entering drains, sewers or streams.

**Reference to other sections:** See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

**Precautions for safe handling:** Read label before use. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Minimise dust generation and accumulation. Provide adequate ventilation. Do not breathe dust. Avoid contact with eyes, skin and clothing. Avoid prolonged exposure. Persons susceptible for allergic reactions should not handle this product. Should be handled in closed systems, where possible. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices. Wash hands before eating. When using, do not eat, drink or smoke. Do not allow to enter drains, sewers or watercourses.

**Conditions for safe storage, including any incompatibilities:** Store locked up. Store in original tightly closed container. Store away from incompatible materials (see Section 10). Segregate from alkalis and alkalizing substances. Segregate from nitrites. Protect against moisture. The product may cake under the influence of moisture. If stored in packages, ensure packages are adequately labelled, and check regularly for leaks or spills. Do not store in open or unlabelled containers.

**Specific end use(s):** No information provided.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters** Follow standard monitoring procedures.

**Exposure standards:**

Australia. National Workplace OELs (Workplace Exposure Standards for Airborne Contaminants, Appendix A)

| Impurities | Type | Value |
|---|---|---|
| Nickel sulphate (CAS 7786-81-4) | TWA | 0.1 mg/m$^3$ |

Australia. OELs. (Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment)

| Impurities | Type | Value |
|---|---|---|
| Nickel sulphate (CAS 7786-81-4) | TWA | 0.1 mg/m$^3$ |

**Biological limits:**

ACGIH Biological Exposure Indices (*for sampling details, see source document)

| Impurities | Value | Determinant | Specimen |
|---|---|---|---|
| Cobalt sulphide (CAS1317-42-6) | 15 µg/l | Cobalt | Urine * |
| | 1 µg/l | Cobalt | Blood * |

**Exposure controls**

**Engineering controls:** Good ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Use explosion-proof equipment if high dust / air concentrations are possible.

**PPE:**

| | |
|---|---|
| **Eye / Face** | Wear dust-resistant safety goggles where there is a danger of eye contact. |
| **Hands** | Wear appropriate chemical resistant gloves. |
| **Body** | Wear suitable protective clothing. |
| **Respiratory** | Not required under normal conditions of handling. In case of inadequate ventilation or risk of inhalation of dust, use suitable respiratory equipment with particular filter. |

**Hygiene Measures:** Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking and / or smoking. Routinely wash work clothing and protective equipment to remve contaminants. Contaminated work clothing should not be allowed out of the workplace. Observe any medical surveillance requirements.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | White to pale pink crystalline solid. |
| **Odour** | Odourless |
| **Flammability** | Non flammable |
| **Flash Point** | Not relevant |
| **Boiling Point** | Not available |
| **Melting Point** | 350°C |
| **Evaporation Rate** | Not available |
| **pH** | Not available |
| **Vapour density** | Not available |
| **Density** | Not available |
| **Solubility (water)** | Soluble in water |
| **Vapour pressure** | Not available |
| **Upper explosion limit** | Not relevant |
| **Lower explosion limit** | Not relevant |
| **Partition coefficient** | Not available |
| **Autoignition temperature** | Not available |
| **Decomposition temperature** | Not available |
| **Viscosity** | Not available |
| **Explosive properties** | Not explosive |
| **Oxidising properties** | Not oxidising |
| **Odour threshold** | Not available |

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## 10. STABILITY AND REACTIVITY

**Reactivity:** The product is stable and non-reactive under normal conditions or use, storage and transport.

**Chemical stability:** Stable under recommended conditions of storage.

**Possibility of hazardous reactions:** No dangerous reaction known under conditions of normal use.

**Conditions to avoid:** Contact with incompatible materials. Avoid heat, sparks, open flames and other ignition sources. Dust generation.

**Incompatible materials:** Strong oxidising agents (e.g. hypochlorites). Alkalis and alkalising substances. Nitrates.

**Hazardous decomposition products:** May evolve nitrogen / sulphur / nickel / cobalt oxides and ammonia when heated to decomposition. Decomposition may yield nickel carbonyl. Under special conditions nickel can react with carbon monoxide in reducing atmospheres to form nickel carbonyl, a toxic gas.

## 11. TOXICOLOGICAL INFORMATION

Use safe work practices to avoid eye or skin contact and inhalation.

**Ingestion:** Expected to be a low ingestion hazard.

**Skin:** May cause an allergic skin reaction.

**Eye:** Direct contact with eyes may cause temporary irritation.

**Inhalation:** Prolonged inhalation may be harmful.

**Symptoms related to exposure:** May cause an allergic skin reaction. Dermatitis. Rash. Prolonged exposure may cause chronic effects. Lung fibrosis.

**Acute Toxicity:** May cause discomfort if swallowed.

**Toxicological Data:**

| Impurities | Species | Test Results |
|---|---|---|
| *Nickel sulphide (CAS 16812-54-7)* | | |
| **Acute** – Inhalation LC50 | Rat | 1.1379 mg/l (4 hrs) |
| **Acute** – Oral LD50 | Rat | > 5000 mg/kg |
| *Nickel sulphate (CAS 7786-81-4)* | | |
| **Acute** – Inhalation LC50 | Rat | 2.48 mg/l (4 hrs) |
| **Acute** – Oral LD50 | Rat | 300 mg/kg |
| *Cobalt sulphate (CAS 10026-24-1)* | | |
| **Acute** – Oral LD50 | Rat | 768 mg/kg |

**Skin corrosion / irritation:** Based on available data, the classification criteria are not met. Prolonged skin contact may cause temporary irritation.

**Serious eye damage / irritation:** Based on available data, the classification criteria are not met. Direct contact with eyes may cause temporary irritation.

**Respiratory or skin sensitisation:** Based on available data, the classification criteria are not met. The product contains a small amount which may provoke an allergic reaction among sensitive individuals.

**Germ cell mutagenicity:** Based on available data, the classification criteria are not met.

**Carcinogenicity:** May cause cancer.

| | |
|---|---|
| Cobalt sulphate (CAS 10026-24-1) | IARC: 2B Possibly carcinogenic to humans. |
| Cobalt sulphide (CAS 1317-42-6) | IARC: 2B Possibly carcinogenic to humans. |

| | |
|---|---|
| Nickel sulphate (CAS 7786-81-4) | IARC: 1 Carcinogenic to humans. |
| Nickel sulphide (CAS 16812-54-7) | IARC: 1 Carcinogenic to humans. |

**Reproductive toxicity:** Based on available data, the classification criteria are not met.

**Specific target organ toxicity – single exposure:** Based on available data, the classification criteria are not met.

**Specific target organ toxicity – repeat exposure:** Based on available data, the classification criteria are not met.

**Aspiration hazard:** Due to the physical form of the material it is not an aspiration hazard.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity:** Harmful to aquatic life with long lasting effects.

| Impurities | Species | Test Results |
|---|---|---|
| *Nickel sulphide (CAS 16812-54-7)* | | |
| **Aquatic - Acute** | | |
| Algae EC50 | Pseudokirchnerella subcapitata | > 0.0815 mg/l, 72 hours |
| Crustacea LC50 | Ceriodaphnia dubia | 0.122 mg/l, 48 hours |
| Fish LC50 | Oncorhynchus mykiss | 15.3 mg/l, 96 hours |
| *Cobalt sulphide (CAS 1317-42-6)* | | |
| **Aquatic - Acute** | | |
| Fish LC50 | Oncorhynchus mykiss | 1406 µg/l, 96 Hours |
| **Aquatic - Chronic** | | |
| Fish NOEC | Danio rerio | 340 µg/l, 16 days |
| *Nickel sulphate (CAS 7786-81-4)* | | |
| **Aquatic - Acute** | | |
| Crustacea LC50 | Water flea (Daphnia magna) | 0.18 mg/l, 48 hours |
| Fish LC50 | Carp (Cyprinus carpio) | 47.58 mg/l, 96 hours |

**Persistence and degradability:** Not relevant.

**Bioaccumulative potential:** This product does not bioaccumulate.

**Mobility in soil:** This product is water soluble and may disperse in soil.

**Other adverse effects:** No information available.

## 13. DISPOSAL CONSIDERATIONS

**Disposal:** Nickel bearing waste should be recovered or recycled if possible. Must be disposed of as hazardous chemical waste. Collect and reclaim or dispose in sealed containers at licenced waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers / water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of in accordance with local regulations. Recover and reclaim or recycle, if practical.

**Residual Waste:** Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.

**Contaminated Packaging:** Since emptied containers may retain product residue, follow label warning even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. TRANSPORT INFORMATION

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG or IATA**

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| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **UN Number** | None allocated. | None allocated. | None allocated. |
| **Proper Shipping Name** | None allocated. | None allocated. | None allocated. |
| **Transport Hazard Class** | None allocated. | None allocated. | None allocated. |
| **Packing Group** | None allocated. | None allocated. | None allocated. |
| **Hazchem Code** | None allocated. | None allocated. | None allocated. |

## 15. REGULATORY INFORMATION

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Australia National Pollutant Inventory (NPI): Threshold quantity**

| | | |
|---|---|---|
| Cobalt sulphate (CAS 10026-24-1) | 10 TONNES/YR | Threshold Category: 1 |
| Cobalt sulphide (CAS 1317-42-6) | 10 TONNES/YR | Threshold Category: 1 |
| Nickel sulphate (CAS 7786-81-4) | 10 TONNES/YR | Threshold Category: 1 |
| Nickel sulphide (CAS 16812-54-7) | 10 TONNES/YR | Threshold Category: 1 |

**National Pollutant Inventory (NPI) substance reporting list**

| | | |
|---|---|---|
| Nickel sulphate (CAS 7786-81-4) | 2000 TONNES/YR | Threshold Category: 2B |
| Nickel sulphide (CAS 16812-54-7) | 2000 TONNES/YR | Threshold Category: 2B |

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

**AICS** All chemicals listed on the Australian Inventory of Chemical Substances (ACIS).

## 16. OTHER INFORMATION

**Disclaimer**

This document has been prepared by Baileys Fertilisers and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue.

While Baileys Fertilisers has taken all due care to include accurate and up to date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, Baileys Fertilisers accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

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**Date** 04/06/2019
**End of SDS**