Safety Data Sheet



Section 1: SUBSTANCE IDENTIFICATION AND SUPPLIER

| Product Name: | Ammonium Sulphate |
|--------------------------------------|---|
| Other Names: | GAS, SAS, Ammonium sulfate, Sulphuric acid diammonium salt, Sulphate of ammonia |
| Product Code: | 4000000, 4090000 |
| Chemical Formula: | (NH ₄) ₂ SO ₄ |
| Recommended Use: | Fertiliser |
| Restrictions of Use: | Refer to Section 15 |
| Company Identification: | Ravensdown Limited |
| Address: | 292 Main South Road, Hornby, Christchurch, 8042 PO Box 1049, Christchurch 8011 |
| Customer Centre: | 0800 100 123 |
| National Poisons Information Centre: | 0800 POISON (0800 764 766) |
| Emergency Phone Number: | 0800 CHEMCALL (0800 243 622) (24hr) (Emergencies Only) |
| Transport Emergency Phone Number: | 111 - tell operator what service is needed: Fire, Ambulance or Police |
| Date of SDS Preparation | 3 September 2020 |

Section 2: HAZARD IDENTIFICATION

This substance is hazardous according to the EPA Hazardous Substances (Classification) Notice 2017

| EPA Approval No: | Fertilisers (subsidiary) – HSR002571 HSR002770 - Ammonium Sulphate |
|------------------|---|
| Pictograms: | <u>(i)</u> |
| Signal Word: | Warning |

| HSNO Classification | Hazard Code | Hazard Statement | GHS Category |
|---------------------|-------------|-------------------------------------|-------------------|
| 6.1D (oral) | H302 | Harmful if swallowed. | Acute Tox. 4 |
| 9.1D | H402 | Harmful to aquatic life. | Aquatic Chronic 4 |
| 9.3C | H433 | Harmful to terrestrial vertebrates. | - |

| Prevention Code | Prevention Statement |
|------------------------|---|
| P102 | Keep out of reach of children. |
| P103 | Read label before use. |
| P264 | Wash hands thoroughly after handling. |
| P270 | Do not eat, drink or smoke when using this product. |
| P273 | Avoid release to the environment. |

| Response Code | Response Statement |
|---------------|---|
| P101 | If medical advice is needed, have product container or label at hand. |

| P330 | Rinse mouth. |
|-------------|--|
| P301 + P312 | IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. |

| Storage Code | Storage Statement |
|----------------|-------------------|
| None allocated | |

| Disposal Code | Disposal Statement |
|---------------|--|
| P501 | Dispose of according to Local Regulations or Authorities |

Section 3: COMPOSITION INFORMATION

| INGREDIENT | CAS No. | CONTENT |
|-------------------|-----------|---------|
| Ammonium Sulphate | 7783-20-2 | 100% |

Section 4: FIRST AID MEASURES

| Routes of Exposure: | |
|------------------------|--|
| If in eyes: | Flush with plenty of water for several minutes, holding eyelids open if necessary. Remove contact lenses if present and easy to do. Seek medical advice. |
| If on skin: | Wash affected area thoroughly with soap and water. Seek medical attention if needed. |
| If ingested: | Never give anything by mouth to an unconscious person. If swallowed, rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell. |
| If inhaled: | Remove patient to fresh air. Keep at rest in comfortable position for breathing. If breathing is shallow or has stopped ensure airway is clear and apply resuscitation. Seek medical assistance if needed. |
| Most important symptom | s and effects, both acute and delayed |
| Symptoms: | |
| Eyes: | Not triggered however direct contact may result in lachrymation (tears), pain, redness and conjunctivitis. |
| Skin: | Not applicable however prolonged and repeated skin exposure may result in irritation and skin rash. |
| Ingested: | Harmful if swallowed. Ingestion of large quantities may lead to nausea, vomiting, diarrhea, thirst. |
| Inhaled: | Not triggered however over exposure may cause mucous membrane irritation and coughing. |
| Notes to Doctor: | Treat symptomatically. |

Section 5: FIRE FIGHTING MEASURES

| Hazard Type | Non Flammable |
|------------------------------|---|
| Hazards from combustion | Non-combustible. Decomposes on heating to form ammonia, nitrogen oxides and sulphur |
| products | oxides |
| Suitable Extinguishing media | Based on surrounding materials. |
| Precautions for firefighters | Breathing apparatus, goggles, and protective gloves. |
| and special protective | |
| clothing | |
| HAZCHEM CODE | None Allocated |

Section 6: ACCIDENTIAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Wear appropriate protective clothing as detailed in Section 8. Exclude non-essential people from the area.

Environmental precautions:

Avoid unintended release of excessive amounts into waterways or sewers.

Methods and material for containment and cleaning up:

Contain spill and sweep up. Collect and place in sealable containers. Avoid generating dust. Reuse or recycle where possible. Dispose of according to Section 13.

Section 7: HANDLING AND STORAGE

| Handling: | Read label before use. |
|-----------|--|
| | Wash hands thoroughly after handling. |
| | Do not eat, drink or smoke when using this product. |
| | Avoid generating dusts, do not breathe dusts. |
| | Avoid release to the environment. |
| Storage: | Keep out of reach of children. |
| | Store away from incompatible materials listed in Section 10. |
| | Store in a cool, dry area. |

Section 8: EXPOSURE CONTROL/PERSONAL PROTECTION

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

| Substance | TWA ppm mg/m³ | STEL ppm mg/m ³ |
|------------------|------------------|-------------------------------|
| Inspirable dust: | - 10 | |
| Respirable dust: | - 3 | |

Workplace Exposure Standard – Time Weighted Average (WES-TWA). The time-weighted average exposure standard designed to protect the worker from the effects of long-term exposure. Workplace Exposure Standard – Short-Term Exposure Limit (WESSTEL). The 15-minute average exposure standard. Applies to any 15- Minute period in the working day and is designed to protect the worker against adverse effects of irritation, chronic or irreversible tissue change, or narcosis that may increase the likelihood of accidents. The WES-STEL is not an alternative to the WES-TWA; both the short-term and time-weighted average exposures apply. Workplace Exposure Standards and Biological Exposure Indices NOV 2019 11TH EDITION.

| Engineering Controls: | Handle in well-ventilation area. If dust generated use local extraction to control. Avoid |
|-----------------------|---|
| | inhalation of dust. |

Personal Protection Equipment: Eyes: Wear safety goggles. Eye wash facilities should be available. Skin/Hands: Wear protective gloves and overalls. Respiratory: If dust is present wear a dust mask. General: Remove protective clothing and wash hands and face before meals and after work.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

| Appearance | Granular/Crystalline |
|---------------------------|---------------------------------|
| Colour | White to grey/brown or clear |
| Odour | Odourless |
| Odour Threshold | Not available |
| рН | 5 – 6 (50g/l in water at 20 °C) |
| Boiling Point | Not available |
| Melting Point | 280 °C (decomposes) |
| Freezing Point | Not available |
| Flash Point | Not available |
| Flammability | Non Flammable |
| Upper and Lower Explosive | Not available |
| Limits | |
| Vapour Pressure | Not available |
| Vapour Density | Not available |
| Specific Gravity | 1.77 g/cm ³ |
| Bulk Density | 1050 kg/m ³ |
| Water Solubility | 744 g/l at 20 °C |

| Partition Coefficient: | Not available |
|----------------------------------|---------------|
| Auto-ignition Temperature | Not available |
| Decomposition Temperature | Not available |
| Kinematic Viscosity | Not available |
| Particle Characteristics | Not available |

Section 10: STABILITY AND REACTIVITY

| Stability of Substance | This product is stable under normal conditions. | |
|--------------------------|--|--|
| Possibility of hazardous | Not available | |
| reactions | | |
| Conditions to Avoid | Strong heat, moisture. | |
| Incompatible Materials | Oxidisers. | |
| Hazardous Decomposition | Decomposes on heating to form ammonia, nitrogen oxides and sulphur oxides. | |
| Products | | |

Section 11: TOXICOLOGICAL INFORMATION

Acute Effects:

| Swallowed | Harmful if swallowed. Ingestion of large quantities may lead to nausea, vomiting, | |
|------------|--|--|
| | diarrhea, thirst. LD50 (oral, rat) 2840 mg/kg | |
| Dermal | Not applicable. | |
| Inhalation | Not triggered however over exposure may cause mucous membrane irritation and | |
| | coughing. | |
| Eye | Not triggered however direct contact may result in lachrymation (tears), pain, redness | |
| | and conjunctivitis. | |
| Skin | Not applicable however prolonged and repeated skin exposure may result in irritation | |
| | and skin rash. | |

Chronic Effects:

| Carcinogenicity | Not applicable. |
|------------------------|-----------------|
| Reproductive Toxicity | Not applicable. |
| Germ Cell Mutagenicity | Not applicable. |
| Aspiration | Not applicable. |
| STOT/SE | Not applicable. |
| STOT/RE | Not applicable. |

Section 12: ECOLOGICAL INFORMATION

HSNO Classes: 9.1D = Harmful to aquatic life.

9.3C = Harmful to terrestrial vertebrates.

| Product: | | |
|-------------------------------|--|--|
| Persistence and degradability | No data available. | |
| Bioaccumulation | No data available. | |
| Mobility in Soil | No data available. | |
| Other adverse effects | Avoid unintended release into streams and waterways. | |

Individual component information (Please refer to www.epa.govt.co.nz for full details):

Ammonium Sulphate (Cas No 7783-20-2):

| Route | Species | Duration | Value LC50/EC50 |
|---------------------------|-----------------------------|----------|-----------------|
| Acute aquatic, fish | Catla catla | 96 hr | 48 mg/L |
| Acute aquatic, Crustacean | Crangon crangon (Crustacea) | 96 hr | 81-130 mg/L |
| Bioaccumulative | No | | |
| Rapidly Degradable | Yes | | |

Section 13: DISPOSAL INFORMATION

| Disposal Method: | Collection into sealable containers and dispose of in an appropriate land fill. Reuse or recycle where possible. If practicable apply excess fertiliser at recommended rates to appropriate land. Observe any local authority restrictions that may apply. |
|----------------------------------|--|
| Container Disposal: | Rinse containers thoroughly prior to reuse. Otherwise render unusable and dispose of as waste. |
| Precautions or methods to avoid: | Unacceptable disposal methods include, but are not limited to, burning, burying and dumping. Do not allow to enter waterways. |

Section 14: TRANSPORT INFORMATION

This product is **NOT** classified as a Dangerous Good for transport in NZ; NZS 5433:2012

Section 15: REGULATORY INFORMATION

| This substance is classified hazardous according to the EPA Hazardous Substances (Classification) Notice 2017 | | |
|---|---|--|
| EPA Approval Code: | A Approval Code: Fertilisers (subsidiary) – HSR002571 | |
| | HSR002770 (Ammonium Sulphate) | |
| HSNO Classification: | 6.1D(oral), 9.1D, 9.3C | |

| HSW (HS) Regulations 2017 and EPA Notices | Trigger Quantity |
|---|------------------------------------|
| , , , | |
| Certified Handler | Not required |
| Location Certificate | Not required |
| Tracking Trigger Quantities | Not required |
| Signage Trigger Quantities | 1000kg (9.3C) |
| Emergency Response Plan | 1000kg (6.1D) |
| Secondary Containment | 1000kg (6.1D) |
| Restriction of Use | Only use for the intended purpose. |

Section 16: OTHER INFORMATION

Glossary

EC₅₀ Median effective concentration.EEL Environmental Exposure Limit.EPA Environmental Protection Authority

HSNO Hazardous Substances and New Organisms.

HSW Health and Safety at Work.

LC₅₀ Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it.

LD₅₀ Lethal dose to kill 50% of test animals/organisms.

LEL Lower explosive level.

OSHA American Occupational Safety and Health Administration.

TEL Tolerable Exposure Limit.

TLV Threshold Limit Value-an exposure limit set by responsible authority.

UEL Upper Explosive Level
WES Workplace Exposure Limit

References:

- 1. EPA Hazardous Substances (Safety Data Sheets) Notice 2017
- 2. Workplace Exposure Standards and Biological Exposure Indices Nov 2017 edition.
- 3. Assigning a hazardous substance to a HSNO Approval (Aug 2013).
- 4. Transport of Dangerous goods on land NZS 5433:2012
- 5. HSW (Hazardous Substances) Regulations 2017

Disclaimer

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Please contact Ravensdown, if further information is required.

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