Material Safety Data Sheet

ULTRA-GYP

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: **Ultra-Gypsum S (Solution)**
Ultra-Gypsum FL (Flocculation)

Other Names: Calcium sulphate dihydrate

Uses: Soil conditioner, flocculant, cement additive, stockfeed

Supplier: **Ultimate Products (Aust) Pty Ltd**
281 Rossiter Road
Koo Wee Rup. Vic. 3981.
Tel: 1800 003 244
Tel: 03 5997 1700

2. HAZARDS IDENTIFICATION

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO ASCC/NOHSC/EU CRITERIA

Hazard Category: None allocated

Hazard Classification: NON-HAZARDOUS SUBSTANCE, NON-DANGEROUS GOODS

RISK PHRASES
Gypsum is not classified as hazardous according to the criteria of Worksafe Australia.
R36/38 Irritating to eyes and skin.

SAFETY PHRASES
S22 Do not breathe dust.
S24/25 Avoid contact with eyes and skin.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S37/39 Wear suitable gloves and eye/face protection.

Road Transport (ADR/RID)
UN Number: None assigned.
Proper Shipping Name: None assigned.
Dangerous Goods Class: None assigned.
Packing Group: None assigned.

Poison Schedule: None assigned [Aust].
Hazchem Code: None assigned.

3. COMPOSITION / INFORMATION ON INGREDIENTS

SUBSTANCE NAME	Proportion	CAS Number
Calcium sulphate dihydrate	> 95 %	10101-41-4
Calcium Carbonate	< 1%	1317-65-3
Silica	< 2 %	7631-86-9
Water and impurities	Remainder	

All other ingredients not hazardous according to ASCC/NOHSC/EU Criteria.

4. FIRST AID MEASURES

Gypsum is not considered toxic unless large amounts are ingested. Its principal effect is due to its irritant properties. Be conversant with the information on this MSDS before any gypsum handling or use commences.

Swallowed:
If swallowed, DO NOT induce vomiting. If conscious, give 1 to 2 glasses of water or milk to drink. If irritation persists transport to hospital or doctor.

Eye:
If dust enters the eyes, flush with plenty of water for at least 15 minutes, ensuring eye lids are held open. If irritation persists, immediately transport to hospital or doctor.

Skin:
If dust falls onto the skin, remove any contaminated clothing and wash skin thoroughly with soap and water. If irritation persists transport to hospital or doctor.

Inhalation:
Move victim to fresh air. Keep warm and at rest. Apply resuscitation if victim is not breathing. If trained personnel are available administer oxygen if breathing is difficult.

First Aid Facilities:
Eye wash fountain, safety shower and normal wash room facilities.

Personal Protection by First Aid Personnel
First aid personnel providing first aid treatment to a person coming into contact with gypsum should observe the following precautions for their own personal protection:

- Avoid contact with gypsum by wearing protective gloves;
- Wear chemical goggles to prevent gypsum particles entering eyes;
- Wear P2 type canister respirator if rescue area is contaminated by airborne gypsum dust.

Advice to Doctor:
Treat symptomatically.
Use Syrup of Ipecac and gastric lavage on individuals who have swallowed large amounts of gypsum. Gypsum contact with the eyes may result in serious injury due to mechanical abrasion. Treat symptomatically as for abrasive exposure. For skin abrasion, do not use sodium bicarbonate to rinse skin as this aggravates the local irritation. Individuals with pre-existing lung conditions (asthma and other pulmonary diseases) may have increased susceptibility to gypsum dust exposure. Use a bronchodilator inhaler if required on asthma patients. Watch for allergic reactions. Symptoms may be delayed for several hours. General supportive measures with continual monitoring of gas exchanges and fluid intake are also required. Effects of exposure may be delayed

For advice, contact Poisons Information Centre
In Australia call Tel: 131126
In New Zealand Tel: 034747000

5. FIRE-FIGHTING MEASURES

Fire/Explosion Hazard: If safe to do so, move undamaged containers from fire area.
Suitable Extinguishing Media: Use extinguishing media suitable for surrounding fire situation.
Hazards from Combustion Products: Fire may cause the release of toxic and/or irritating sulphur oxides. When exposed to heat (approx. 60 degrees C) this product loses water of hydration to form calcium sulphate hemihydrate (Plaster of Paris). Anhydrite may be formed by further loss of hydration at higher temperatures.
Precautions for Fire Fighters and Special Protective Equipment: Fire fighters to wear self-contained breathing apparatus (SCBA) in confined spaces, in oxygen deficient atmospheres or if exposed to products of decomposition. Full protective clothing is also recommended.

HAZCHEM CODE: None allocated [Aust]

FLAMMABILITY: This material is not a combustible or flammable solid.

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures: Avoid generating dusts. Low hazard product, use common sense in handling situation.
Methods and Materials for Containment and Clean Up Procedures:
This product is a heavy powder. If safe to do so, wet area to prevent high dust levels. Wear suitable protective equipment. Assess situation, if product is not significantly contaminated, shovel or scoop up and reuse. If highly contaminated shovel up any spill or if available, use dustless methods, such as a HEPA vacuum and filter. Place waste into suitably labelled container for disposal. **DO NOT DRY SWEEP.**

7. HANDLING AND STORAGE

Precautions for Safe Handling: Avoid generating and inhaling dusts. Provide adequate ventilation. For further information please refer to the Engineering Controls of this MSDS.
Conditions for Safe Storage: Keep containers tightly closed, when not using the product. Store in a cool and dry area. Store in original packages as approved by manufacturer. Store away from mineral acids and strongly alkaline solutions.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

National Exposure Standards:
ES-TWA

Calcium Sulphate	10mg/m^3
Silica (furned – respirable)	2 mg/m^3

Engineering Controls: Avoid high dust concentrations. Maintain adequate ventilation at all times. In most circumstances natural ventilation systems are adequate.

Personal Protection Equipment:

Gloves: Leather or neoprene rubber.
Eyes: Chemical goggles or spectacles with side shields to protect eyes.
Respiratory Protection: Avoid breathing of dusts. The use of a respirator is not normally required, however, if high dust levels are present, or in areas of limited ventilation, then the use of a suitable dust mask or half-face respirator fitted with a P2 filter is recommended. All respirators must comply with AS/NZS 1715.

Personal Hygiene: Change and wash clothing and PPE, if contaminated, or before storing and/or re-using. Wash hands and face thoroughly after handling and before work breaks, eating, drinking, smoking and using toilet facilities.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	White to cream coloured dust with no discernable odour.
Boiling Point:	Decomposes. Loses H_2O at 1630˚C.
Vapour Pressure:	Not available.
Bulk Density:	Highly variable from 0.8 – 1.4 MT/m^3
Flash Point:	Not applicable, product is not flammable.
Flammability Limits:	Not applicable.
Solubility in Water:	Soluble in Water (g/L): 0.21 g/ 100 g (20˚ C). Slightly soluble in Glycerol.
pH:	Saturated solution 5.5
Reactivity:	Stable under normal temperature and pressure. Explosion can result when mixed with Diazomethane vapour or Aluminium powder and ignition can result when mixed with Phosphorous.

10. STABILITY AND REACTIVITY

Chemical stability: This product is stable under normal temperatures and pressures, when stored and handled in accordance with this material safety data sheet.
Conditions to avoid: Store away from sources of heat or fire, especially in a confined space. Keep away from strong acids and alkalis.
Incompatible materials: Gypsum is incompatible with strong oxidizing agents, strong acid and alkalis. Slightly corrosive to copper, carbon steel, aluminium, zinc and ferrous metals on prolonged contact
Hazardous decomposition products: Oxides of sulphur, fluoro silanes.
Hazardous reactions: Contact with strong acids may lead to evolution of toxic sulphur oxide vapours. Contact with some metals and alkalis may lead to evolution of toxic fluoro silane vapours.

11. TOXICOLOGICAL INFORMATION

No adverse health effects are expected, if the product is handled in accordance with this Material Safety Data Sheet and
the product label. Symptoms and effects that may arise if the product is mishandled and overexposure occurs are:

Acute: Gypsum has low toxicity if swallowed. It is not classified as hazardous according to criteria of Worksafe Australia.

Inhalation: Inhalation of low concentrations of gypsum dust should not cause significant health effects. Inhalation of large amounts of dust may cause inflammation of the nose and throat leading to nasal secretions. Symptoms of irritation due to inhaling are sore throat, tightness of chest, chest pain, light-headedness and persistent cough with secretion of sputum.

Skin:
Prolonged skin contact with gypsum in a localised area may result in irritation (primarily from abrasion) which manifests itself in reddening, scaling, itching and skin inflammation. Skin irritation may be aggravated in persons with existing skin lesions.

Eye:
Contact may cause mechanical irritation due to abrasion. This may progress to burning and tearing blurring vision upon repeated exposure.

Swallowed:
Ingestion of small amounts of gypsum should not cause significant health effects. LD50 (Oral, rat) = More than 5,050 mg/kg.

Chronic:
Chronic exposure to gypsum may cause irritation of the mucous membranes and skin irritations that may lead to dermatitis. This product contains crystalline silica and prolonged or repeated overexposures by inhalation may cause progressive opacities in the lungs and nodulation and permanent lung damage. Crystalline silica is considered a human carcinogen by the International Agency for Research on Cancer (IARC), and a suspected human carcinogen by the American Conference of Governmental Industrial Hygienists (ACGIH).

12. ECOLOGICAL INFORMATION

Ecotoxicity: Practically non-toxic to aquatic organisms or land animals based on United States Federal Insecticide Fungicide and Rodenticide Act (FIFRA) acute toxicity ratings. Product is not significantly hazardous for the environment.

Persistence and degradability:

Abiotic:

- Water/soil – inert product in normal environmental conditions;
- Water/soil - slow ionisation and cation precipitation in presence of sulphates or carbonates (alkaline pH).

Biotic:

- Degradation products are hydrogen sulphide and sulphates.
- Gypsum is persistent in the environment due to inert form.

Mobility:

- Air – mobility as solid aerosols;
- Water/soil – low solubility and mobility;
- Soil/sediments – adsorption on mineral and organic soil constituent (calcium).

Environmental fate (exposure):
Low toxicity to aquatic life.

Acute Toxicity to Fish
96 hr LC50 (*Pimephales promelas*): 1,970 mg/L;
96 hr LC50 (*Lepomis macrochirus*): 2,980 mg/L; toxic effect observed at the solubility limit of the product;
96 hr LC50 (*Gambusia affinis*): 56,000 mg-/L.

Chronic Toxicity to Fish
28 day NOEC (*Salmo irideus*): 3,263 mg/L.

Acute Toxicity to Aquatic Invertebrates
48 hr EC50 (*Daphnia magna*): 1,970 mg/L.

Toxicity to Aquatic Plants
120 hr TLm (*Nitszcheria linerais*): 3,200 mg/L.

Bioaccumulative potential: Not applicable.

13. DISPOSAL CONSIDERATIONS

Disposal methods and containers:
Gypsum is a soil conditioner, flocculant, and fertiliser and may hence be distributed on agricultural land. If no agricultural land is available, collect in sealed containers and disposed in accordance with the requirements of the Department of the Environment.

14. TRANSPORT INFORMATION

UN Number: None assigned.
UN Proper shipping name: None assigned.
Class and subsidiary risk: None assigned.
Packing group: None assigned.
Special precautions for user: Gypsum is not classified for physicochemical hazards and not specified as dangerous in the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code), 6th Edition, (FORS, 1998).
Hazchem code: None assigned.

15. REGULATORY INFORMATION

Australian regulatory information

Gypsum is not classified as hazardous and is not specified in the NOHSC List of Designated Hazardous Substances [NOHSC:10005(1999)]. Gypsum is not listed as a poison in the Standard for the Uniform Scheduling of Drugs and Poisons.

Additional national and/or international regulatory information:

Not classed as hazardous material according to EEC Directive 67/548/EEC.
OSHA: Not hazardous by definition of Hazard Communication Standard (40 CFR Part 370).

16. OTHER INFORMATION

Key / legend to abbreviations and acronyms used in the MSDS

NOHSC	National Occupational Health and Safety Commission
SUSDP	Standard for the Uniform Scheduling of Drugs and Poisons
ES-TWA	Exposure Standard – Time weighted average
ES-STEL	Exposure Standard – Short term exposure level
ES-Peak	Exposure Standard – Peak level
FORS	Federal Office of Road and Safety
LC50:	Lethal concentration 50, median lethal concentration
LD50	Lethal dose 50. The single dose of a substance that causes the death of 50% of an animal population from exposure to the substance by any route other than inhalation
%(wt/wt)	Percent amount on a weight per weight basis
%(wt/vol)	Percent amount on a weight per volume basis
PPM	Parts per million
TLm	Median Toxic Limit is similar to LC but refers specifically to the concentration which kills 50% of the organisms, in other words the LC50
Zone 1 Class 1	An area in which an explosive gas atmosphere can be expected to occur periodically or occasionally during normal operation. (More than 10 hours per year but less than 1000 hours per year)
ASCC	Australian Safety and Compensation Council [Aust]
AICS	Australian Inventory of Chemical Substances

Principle References

Various reference sources including the Public Domain.

END OF MSDS