1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Product name	**POWERN39**
Synonym(s)	LIQUID FERTILISER

1.2 Uses and uses advised against

Use(s)	FERTILISER

1.3 Details of the supplier of the poduct

Supplier name	**RURAL LIQUID FERTILISERS PTY LTD**
Address	1/61 Dowd Street, Welshpool, WA, 6106, AUSTRALIA
Telephone	(08) 9334 8700; 1800 753 000
Fax	(08) 9334 8711
Email	info@rlf.com.au
Website	http://www.ruralliquidfertilisers.com

1.4 Emergency telephone number(s)

Emergency	Poisons Information Centre: 13 11 26

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO AUSTRALIAN WHS REGULATION

2.2 Label elements

Signal word **WARNING**

Pictogram(s)

Hazard statement(s)

H319	Causes serious eye irritation.

Prevention statement(s)

P264	Wash thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Response statement(s)

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313	If eye irritation persists: Get medical advice/attention.

Storage statement(s) None allocated.

Disposal statement(s) None allocated.

2.3 Other Hazards No information provided.

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
AMMONIUM NITRATE	6484-52-2	229-347-8	35 - 45%
UREA	57-13-6	200-315-5	30 - 40%
WATER	7732-18-5	231-791-2	<25%

4. FIRST AID MEASURES

4.1 Description of first aid measures

Eye	If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.
Inhalation	If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.
Skin	If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.
Ingestion	For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once).
First aid facilities	Eye wash facilities should be available.
4.2 Most important symptoms and effects, both acute and delayed	Over exposure may result in methaemoglobinemia, where the blood's oxygen-carrying capacity is roduced.
4.3 Immediate medical attention and special treatment needed	Treat as for nitrate over exposure (methaemoglobinemia). If ingested, nitrates may be reduced to nitrites by intestinal bacteria. Nitrites may affect the blood (methaemoglobinemia) and blood vessels (vasodilation and a fall in blood pressure). Effects peak within 30 minutes. Clinical signs of cyanosis appear before other symptoms because of the dark pigmentation of methaemoglobin. Institute cardiac monitoring, especially in patients with coronary, artery or pulmonary disease.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media	Use an extinguishing agent suitable for the surrounding fire.
5.2 Special hazards arising from the substance or mixture	Non flammable. May evolve toxic gases if strongly heated.
5.3 Advice for firefighters	No fire of explosion hazard exists.
5.4 Hazchem code	Non allocated.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures	Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS.
6.2 Environmental precautions	Prevent product from entering drains and waterways.
6.3 Methods of cleaning up	Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand or similar), collect and place in suitable containers for disposal.
6.4 Reference to other sections	See Sections 8 and 13 for exposure controls and disposal.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling	Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.
7.2 Conditions for safe storage, including any incompatibilities	Store in a dedicated clean tank. Avoid contamination with any chemical. Avoid evaporation of water from this product. Store away from incompatible materials which include strong acids, hypochlorites, bleach, pool chlorine or chlorine based cleaning products. Alkalis will accelerate the evolution of toxic ammonia gas.
7.3 Specific end use(s)	No information provided.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Exposure standards	No exposure standards have been entered for this product.
Biological limits	No biological limit values have been entered for this product.

8.2 Exposure controls

Engineering controls	Ensure adequate natural ventilation
PPE	The selection of Personal Protective Equipment (PPE) should be based on a Risk Assessment of the task being performed and level of exposure. Normal work clothing may suffice where contact with the product is limited under well ventilated conditions where occupational exposure limits are not exceeded.
Eye / Face	Wear splash-proof goggles.
Hands	Wear PVC or rubber gloves.
Body	When using large quantities or where heavy contamination is likely, wear coveralls.
Respiratory	Not required under normal conditions of use.

Wash splashed liquid from hands and exposed skin. Remove contaminated clothing and thoroughly wash the affected area. Wash contaminated clothing and other protective equipment before storage or reuse. Ensure all PPE conforms to the relevant Australian Standards. Read the labels on the PPE.


9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	COLOURLESS LUQUID
Odour	AMMONIACAL ODOUR
Flammability	NON FLAMMABLE
Flash point	NOT RELEVANT
Boiling point	NOT AVAILABLE
Melting point	NOT AVAILABLE
Evaporation rate	NOT AVAILABLE
pH	6.5 to 7.5 (10% solution)
Vapour density	NOT AVAILABLE
Specific gravity	1.25 to 1.35
Solubility (water)	SOLUBLE
Vapour Pressure	NOT AVAILABLE
Upper explosion limit	NOT RELEVANT
Lower explosion limit	NOT RELEVANT
Partition coefficient	NOT AVAILABLE
Autoignition temperature	NOT AVAILABLE
Decomposition temperature	> 117°C
Viscosity	NOT AVAILABLE

Explosive properties	NOT AVAILABLE
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE

9.2 Other information

% Volatiles	NOT AVAILABLE

10. STABILITY AND REACTIVITY

10.1 Reactivity	Carefully review all information provided in sections 10.2 to 10.6.
10.2 Chemical stability	Stable under recommended conditions of storage.
10.3 Possibility of hazardous reactions	Polymerization is not expected to occur.
10.4 Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources.
10.5 Incompatible materials	Incompatible with combustible materials, and reducing agents (e.g. sulphites). Reactive with mineral acids, chlorine, oxidising agents and alkalis. This liquid fertiliser is not compatible with copper, zinc, or their alloys (i.e., bronze, brass, galvanised metals, etc.), aluminum, mild steel, and concrete. Do not use the above materials of construction in handling systems, or storage containers for this product.
10.6 Hazardous decomposition products	Fire will cause this liquid fertiliser to decompose, giving off acrid smoke and toxic and flammable fumes of nitrogen oxides, cyanuric acid, ammonia, carbon dioxide and carbon monoxide.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Health hazard summary	May be harmful. Over exposure to high levels of nitrates (e.g. by ingestion) has the potential to cause methaemoglobinemia, with symptoms of shortness of breath and blue tinge to lips and skin. However, due to the product application, over exposure is not anticipated with normal use.
Eye	Low to moderate irritant. Contact may result in mild irritation, lacrimation and redness.
Inhalation	Low irritant. Over exposure may result in irritation of the nose and throat, with coughing.
Skin	Low to moderate irritant. Prolonged or repeated contact may result in irritation, rash and dermatitis.
Ingestion	May be harmful. Ingestion may result in gastrointestinal irritation, nausea, vomiting, abdominal pain and diarrhoea. Large quantities may cause cyanosis (blue-grey skin discolouration) and methaemoglobinaemia (reduced capacity of haemoglobin to transport oxygen in blood).

Toxicity data

AMMONIUM NITRATE (6484-52-2)

LD50 (ingestion)	2217 mg/kg (rat)

UREA (57-13-6)

LD50 (ingestion)	8471 mg/kg (rat)
LD50 (intraperitoneal)	> 5000 mg/kg (rat)
LD50 (intravenous)	4600 mg/kg (mouse)
LD50 (subcutaneous)	8200 mg/kg (rat)
LDLo (intraperitoneal)	6608 mg/kg (mouse)
LDLo (intravenous)	4800 mg/kg (rabbit)
LDLo (subcutaneous)	3000 mg/kg (rabbit)

Acute toxicity

Information available for the product:

Based on available data, the classification criteria are not met.

12. ECOLOGICAL INFORMATION

12.1 Toxicity — It is not anticipated to cause any adverse effects to plants or animals.

12.2 Persistence and degradability — No information provided.

12.3 Bioaccumulative potential — No information provided.

12.4 Mobility in soil — No information provided.

12.5 Other adverse effects — Plants nutrients may be beneficial to plants at low levels, however high levels may cause reduced growth or burns in sensitive species. Excess may be washed through soil to waterways. Nutrients released to waterways may cause algal blooms, with potential for toxic effects on aquatic organisms.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste disposal — Dispose of to an approved landfill or waste processing site. Contact the manufacturer/supplier for additional information (If required).

Legislation — Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

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

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
14.1 UN Number	None Allocated	None Allocated	None Allocated
14. 2 Proper Shipping Name	None Allocated	None Allocated	None Allocated
14.3 Transport hazard class	None Allocated	None Allocated	None Allocated
14.4 Packing Group	None Allocated	None Allocated	None Allocated

14.5 Environmental hazards — No information provided

14.6 Special precautions for user

Hazchem code — None Allocated

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

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).

Classifications

Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.
The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004).]

Hazard codes

Xi Irritant

Risk phrases

R36 Irritating to eyes.

Safety phrases

S25 Avoid contact with eyes.

Inventory listing(s)

AUSTRALIA: AICS (Australian Inventory of Chemical Substances)
All components are listed on AICS, or are exempt.

16. OTHER INFORMATION

Additional information

EXPOSURE STANDARDS – TIME WEIGHTED AVERAGES:

Exposure standards are established on the premise of an 8 hour work period of normal intensity, under normal climatic conditions and where a 16 hour break between shifts exists to enable the body to eliminate absorbed contaminants. In the following circumstances, exposure standards must be reduced: Strenuous work conditions; hot, humid climates; high altitude conditions; extended shifts (which increase the exposure period and shorten the period of recuperation).

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which should encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

Abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonized System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m³	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

Disclaimer

This document has been prepared by Rural Liquid Fertilisers (RLF), 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.

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End of SDS