Incitec Pivot Limited

SAFETY DATA SHEET

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Product name **EASY N**

Synonyms 32% NITROGEN FERTILISER SOLUTION ● 32% NITROGEN FERTILIZER SOLUTION ● 32.0.0 ● EASY LIQUID ● EASY SOLUTION ● NON-PRESSURIZED 32% NITROGEN SOLUTION ● UAN ● UAN 32% ● UAN32 ● UREA AMMONIUM NITRATE SOLUTION

1.2 Uses and uses advised against

Uses NITROGEN FERTILISER ● NITROGEN FERTILIZER

1.3 Details of the supplier of the product

Supplier name **INCITEC PIVOT LIMITED**

Address Level 8, 28 Freshwater Place, Southbank, Victoria, 3006, AUSTRALIA

Telephone (03) 8695 4400; 1800 009 832

Fax (03) 8695 4419

Email ipf.customer.service@incitecpivot.com.au

Website http://www.incitecpivot.com.au; www.incitecpivotfertilisers.com.au

1.4 Emergency telephone numbers

Emergency 1800 009 832

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

Physical Hazards

Not classified as a Physical Hazard

Health Hazards

Serious Eye Damage / Eye Irritation: Category 2A

Environmental Hazards

Not classified as an Environmental Hazard

2.2 GHS Label elements

Signal word **WARNING**

Pictograms

Hazard statements

H319 Causes serious eye irritation.

Prevention statements

P264 Wash thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

Response statements

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 statements

None allocated.

Disposal statements

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 to 45%
UREA	57-13-6	200-315-5	25 to 35%
WATER	7732-18-5	231-791-2	Remainder

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 Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

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 reduced. Irritating to the eyes.

4.3 Immediate medical attention and special treatment needed

Treat as for nitrate overexposure (methaemoglobinemia).
Treatment:
1. Give 100% oxygen.
2. In cases of (a) ingestion: use gastric lavage, (b) contamination of skin (unburnt or burnt): continue washing to remove salts.
3. Observe blood pressure and treat hypotension if necessary.
4. When methaemoglobin concentrations exceed 40% or when symptoms are present, give methylene blue 1 to 2 mg/kg body weight in a 1% solution by slow intravenous injection. If cyanosis has not resolved within one hour a second dose of 2 mg/kg body weight may be given. The total dose should not exceed 7 mg/kg body weight as unwanted effects such as dyspnoea, chest pain, vomiting, diarrhoea, mental confusion and cyanosis may occur. Without treatment methaemoglobin levels of 20-30% revert to normal within 3 days.
5. Bed rest is required for methaemoglobin levels in excess of 40%.
6. Continue to monitor and give oxygen for at least two hours after treatment with methylene blue.
7. Consider transfer to centre where haemoperfusion can be performed to remove the nitrates from the blood if the condition of the patient is unstable.
8. Following inhalation of oxides of nitrogen the patient should be observed in hospital for 24 hours for delayed onset of pulmonary oedema.
Further observation for 2-3 weeks may be required to detect the onset of the inflammatory changes of bronchiolitis fibrosa obliterans.

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 water-based liquid.

5.3 Advice for firefighters
No special requirements in liquid state. If heated to high temperatures, evaporation of the water component can result in a solid/molten residue containing ammonium nitrate. When sensitised or during decomposition, ammonium nitrate may become unstable and/or explosive, particularly if confined and under pressure. Urea has a melting point of 133°C, ammonium nitrate 170°C. If heated beyond the melting points to decomposition, toxic gases may evolve, including ammonia, nitrogen oxides, carbon monoxide and cyanuric acid. Under such circumstances evacuate the area and contact emergency services. Remain upwind and notify those downwind of hazard. Fire fighters should wear full protective equipment including Self Contained Breathing Apparatus (SCBA). Use waterfog to cool intact containers and nearby storage areas.

5.4 Hazchem code
None 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
Exercise caution as the spill site may be slippery. Stop leak if possible to do so without risk to prevent further discharge.

Pump liquid from bunds into undamaged storage tanks and containers. Rinse concrete areas afterwards and collect rinse water for disposal. Do not allow rinse water to enter bores, wells, sewers, stormwater drains and watercourses.

If the area is not bunded and the leak can not be stopped and/or liquid is flowing from site, construct a dam or earthen bund to prevent liquid product entering stormwater drains or watercourses. Pump up spilled liquid.

Use absorbent inert material, e.g. sand, soil or sawdust, to soak up residual liquid. Scrape or sweep into piles and cover with a water-proof tarpaulin or place in appropriate labelled containers awaiting disposal.

Plant growth in heavily contaminated soil may be adversely affected due to the over-application of nutrients. Regrowth may not occur for an extended period of time. Run-off or the leaching of nutrients from the contaminated area may contaminate surface and groundwater. In sensitive ecosystems it may be advisable to scrape up and remove contaminated topsoil.

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, read the product label, including sections on "Safety Directions" and "Care of Equipment". Use Directions are also available from Incitec Pivot Agents and Dealers for this product. Keep out of reach of children. Use safe work practices and observe good personal hygiene. Avoid contact with eyes, skin and clothing. If mists are generated, ensure area is ventilated and mist inhalation is avoided. See Section 8 for details on PPE. Wash hands before eating.

This product when stored in a confined, unventilated space/hold can give off ammonia or other odour and lead to the depletion of oxygen within this space and other confined spaces. It is therefore essential that ventilation is carried out prior to entry to all ship holds.

Intermediate Bulk Containers (IBCs) should be stored under cover, away from direct sunlight. Storing IBCs under cover in a building rather than in the open reduces the risk of salting out at low temperatures, i.e. during winter. It also helps keep the containers cooler during the heat of the day. The life of IBCs is extended when they are not exposed to direct sunlight. Keep containers closed to minimise evolution of ammonia from the fertiliser solution.

Do not allow pumps to run dry and overheat. Pumps should be flushed with water after use. If left standing, formed ammonium nitrate crystals can score shafts of pumps.

Bunding of liquid storage areas is not a legal requirement as this product is not a Dangerous Good or a Hazardous Substance. It does, however, have the potential to cause environmental harm if lost to waterways (surface or groundwater). See Section 12 on "Ecological Information". Bunding of large storage tanks and storage areas in close proximity to drains and watercourses is recommended.

Check regularly for leaks or spills.

7.2 Conditions for safe storage, including any incompatibilities

TANKS: The corrosiveness of all solutions that may be kept in the tank must be considered. Stainless steel, high-density polyethylene (HDPE) or fibreglass tanks are recommended. Aluminium tanks may be used. If mild steel tanks are used for long term storage, it is recommended that an epoxy or polyurethane coating be applied internally and to other surfaces that may come in contact with the fertiliser. Galvanised or concrete tanks are not suitable. Corrugated iron tanks can be used only if a PVC liner is installed. Tanks must be suitably rated to account for the Specific Gravity of the products to be stored. Standard polyethylene water tanks are not recommended.

FITTINGS: Fittings and couplings used with mild steel tanks should be compatible with mild steel or galvanic corrosion may occur. The use of stainless steel threaded fittings and couplings is recommended. If aluminium storage is used, then all fittings, piping and pump should be aluminium. Stainless steel or HDPE fittings are the only other materials that can be used in conjunction with the aluminium. HDPE piping and screw type fittings are acceptable for most tanks.

PUMPS: Carbon steel, cast iron, aluminium or stainless steels (300 series) are recommended materials for pumps. Centrifugal and most positive displacement pumps are suitable, as are self-priming plastic pumps. Viton seals are preferred for pumps.

HOSES: Polythene or PVC hosing is preferred because of flexibility and lack of corrosion. Hoses should be of the correct grade or rating to handle the product at the pump pressures. Copper, brass or zinc materials and their alloys are not to be used for any tanks and/or fittings, valves and piping. See Section 10 for comments on corrosivity to metals.

Store so as to prevent contamination by or of reducing agents, acids, metals, alkalis, nitrites or organics, and away from farm chemicals, e.g. insecticides, fungicides and herbicides and foodstuffs.

7.3 Specific end uses

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

Ingredient	Reference	Determinant	Sampling Time	BEI
AMMONIUM NITRATE	ACGIH BEI	Methemoglobin in blood	During or end of shift	1.5% of hemoglobin

8.2 Exposure controls

Engineering controls Avoid splash and inhalation of spray mists.

PPE

The selection of Personal Protective Equipment (PPE) should be based on a Risk Assessment of the task being performed and the level of exposure. Normal work clothing will suffice when handling and applying this product, unless there is a risk of splash during transfer operations, or inhalation of mists during application.

Eye / Face Wear splash-proof goggles during transfer operations if there is a risk of splash.

Hands Wear impervious PVC or rubber gloves during transfer operations if there is a risk of splash or direct contact with the hands.

Body Where skin contact may occur, and for individuals with sensitive skin, wear ankle length and long sleeved clothing or overalls. Wear a PVC or rubber apron and rubber boots during transfer operations if there is a risk of splash/direct contact with the skin.

Respiratory This product has low volatility and toxicity so respiratory protection is not normally required under normal conditions of use. Where light mists are generated and exposure is low, wear a dust/mist mask. If regularly exposed to spray mists, wear a Type B (Inorganic Gases and Vapours) Respirator.

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	PALE BLUE LIQUID
Odour	SLIGHT AMMONIACAL ODOUR
Flammability	NON FLAMMABLE
Flash point	NOT RELEVANT
Boiling point	120°C
Melting point	Liquid at ambient temperatures
Evaporation rate	NOT AVAILABLE
pH	6 to 7
Vapour density	NOT AVAILABLE
Relative density	1.32 @ 20°C
Solubility (water)	MISCIBLE
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	4.8 cSt @ 20°C
Explosive properties	NOT AVAILABLE
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE

10. STABILITY AND REACTIVITY

10.1 Reactivity

Ammonium nitrate solution may react violently with nitrites, chlorates, chlorides and permanganates.

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

Cold temperatures (as constituents will salt out at temperatures below freezing), high temperatures (as ammonia gas may evolve from the fertiliser solution) and fire conditions (which may cause the fertiliser to boil, evaporate and decompose).

Residual material that crystallises following the evaporation of water from EASY N contains ammonium nitrate, which may explode by detonation, heat or shock. Ensure all equipment is thoroughly rinsed after use and before undertaking any hot repair work, e.g. welding or cutting.

Do not allow pumps to run dry.

10.5 Incompatible materials

No information provided.

10.6 Hazardous decomposition products

May evolve toxic gases if heated to decomposition.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

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

Information available for the ingredients:

Ingredient	Oral LD50	Dermal LD50	Inhalation LC50
AMMONIUM NITRATE	2217 mg/kg (rat)	> 5000 mg/kg (rat)	--
UREA	> 5000 mg/kg (rat)	> 5000 mg/kg (rat)	No data but expected to be low toxicity

Skin	Contact may result in irritation, redness, rash and dermatitis.
Eye	Contact may result in irritation, lacrimation, pain and redness.
Sensitisation	Not classified as causing skin or respiratory sensitisation.
Mutagenicity	Not classified as a mutagen.
Carcinogenicity	Not classified as a carcinogen.
Reproductive	Not classified as a reproductive toxin.
STOT - single exposure	Over exposure to mists/vapours may result in irritation of the nose and throat, coughing, nausea and headache. High level exposure may result in drowsiness, breathing difficulties and methaemoglobinemia (blood's oxygen-carrying capacity is reduced).
STOT - repeated exposure	Not classified as causing organ damage from repeated exposure.
Aspiration	Not classified as causing aspiration.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

No information provided.

12.2 Persistence and degradability

This fertiliser contains Urea and Ammonium Nitrate. Urea is a naturally occurring compound. It is transformed in the soil, firstly to ammonium, and then to nitrate. Plant roots take up nitrogen in both these forms.

12.3 Bioaccumulative potential

No information provided.

12.4 Mobility in soil

Ammonium is sorbed onto and held tightly on the surface of soil colloids (clay and organic matter). Nitrate is more mobile, and is subject to leaching, more so under heavy rainfall conditions and in sandy soils.

12.5 Other adverse effects

Avoid contaminating waterways. Nitrogen fertilisers can stimulate weed and algal growth in static surface waters. Algae affect water quality and taste. Depending on the concentration and fish species. the presence of ammonium may be toxic to aquatic life. Nitrate is more persistent in water than the ammonium ion and is typically found in higher concentrations. Nitrate concentrations in ground water may be elevated through the loss of nitrate from the soil by leaching. High nitrate concentrations may render water unsuitable for human and livestock consumption.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste disposal

Beneficial reuse is the preferred disposal option. Do not empty waste or rinse water into drains or allow spills to flow into or contaminate watercourses.

If the fertiliser solution has been recovered from a bund and has not been contaminated, it can be used for its intended purpose, i.e. as a nitrogen fertiliser, either in fertigation programs or through a boom-spray.

If insolubles are present, the fertiliser solution may need to be filtered before application to prevent blockages of filters and nozzles.

If contaminated with other fertilisers, the solution may still be used for its nutrient value. Ensure the application rate is appropriate and fertiliser nutrients are not applied at too high a rate as this may set back plant growth or even kill plants.

Inject into irrigation water or spray onto bare soil, either during the fallow period or as a directed spray away from the foliage in established row crops. Seek professional advice before spraying on plant foliage as fertiliser solutions can burn plant leaves.

Sand soil that has been used to soak up residual or spilt liquid can also be spread for its nutrient value as a fertiliser.

If the waste (liquid or absorbent material) has been contaminated with other harmful materials, e.g. fuel, oil or chemicals, it must be disposed of in accordance with relevant local legislation. Contact the Waste Management Authority for advice.

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 Safe Work Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals (GHS Revision 7).

Inventory listings **AUSTRALIA: AIIC (Australian Inventory of Industrial Chemicals)**
All components are listed on AIIC, or are exempt.

16. OTHER INFORMATION

Additional information

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, 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: form of product; 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 would 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

Report status

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources 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. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT 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, RMT 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.

Prepared by

Risk Management Technologies
5 Ventnor Ave, West Perth
Western Australia 6005
Phone: +61 8 9322 1711
Fax: +61 8 9322 1794
Email: info@rmt.com.au
Web: www.rmtglobal.com

[End of SDS]