SAFETY DATA SHEET

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Product name **EASY NPK LIQUIDS**

Synonyms 13805 - EASY NPK 27 ● 18535 - EASY NPK 30 ● 25345 - EASY KN25 ● 81432 - EASY TOPFOLIAR ● EASY LIQUID CUSTOM BLENDS ● EASY NPK SOLUTION ● EASY SOLUTION CUSTOM BLENDS ● FERTILISER SOLUTION ● FERTILIZER SOLUTION ● LIQUID FERTILISER ● LIQUID FERTILIZER ● TOP FOLIAR ● TOP-FOLIAR

1.2 Uses and uses advised against

Uses FERTILISER SOLUTION ● FERTILIZER SOLUTION ● LIQUID FERTILISER ● LIQUID FERTILIZER

1.3 Details of the supplier of the product

Supplier name **INCITEC PIVOT**

Address Level 9, South Tower Rialto, 525 Collins Street, Melbourne, Victoria, 3000, AUSTRALIA

Telephone (03) 8695 4400; 1800 009 832

Fax (03) 8695 4419

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

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

1.4 Emergency telephone numbers

Emergency 1800 033 111

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

DO NOT allow any pump handling the product to run dry or over-heat e.g. due to blockage or closed valve in the associated lines, resulting in pumping against a dead-end. Under such conditions if over-heating occurs this may cause vaporisation and possible decomposition of the product. This can create pressure build-up in the pump and, if unchecked, lead to an explosion. Ensure that the pump is used correctly according to the manufacturers instructions at all times when pumping the product.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
AMMONIUM NITRATE	6484-52-2	629-213-2	<30%
POTASSIUM NITRATE	7757-79-1	231-818-8	<30%
UREA	57-13-6	682-045-1	<30%
POTASSIUM PHOSPHATE, DIBASIC	7758-11-4	231-834-5	<25%
MONOAMMONIUM PHOSPHATE	7722-76-1	231-764-5	<15%
POTASSIUM DIHYDROGEN PHOSPHATE	7778-77-0	231-913-4	<15%
DIAMMONIUM HYDROGEN ORTHOPHOSPHATE	7783-28-0	231-764-5	<10%
WATER	7732-18-5	686-299-4	Remainder
TRACE ELEMENTS: IN NON HAZARDOUS AMOUNTS	-	-	<4.5%
INHIBITORS (UREASE, NITRIFICATION): IN NON-HAZARDOUS AMOUNTS	-	-	<1.5%
OTHER FERTILISER SALTS	-	-	Not Available

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).

First aid facilities Eye wash facilities and normal washroom facilities should be available.

4.2 Most important symptoms and effects, both acute and delayed

Irritating to the eyes.

4.3 Immediate medical attention and special treatment needed

Treat as for nitrate overexposure (methemoglobinemia).

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 or explosion hazard exists and there are no special requirements in the liquid state. If heated past its boiling point and evaporated, the solid residue may decompose to release toxic gases such as ammonia and nitrogen oxides. 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

Refer to Section 8 (Exposure Controls/Personal Protection) for details on protective equipment. 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.
Refer to Section 13 (Disposal Considerations).
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". 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.

Do not allow pumps to run dry and overheat. Pumps should be flushed with water after use.

7.2 Conditions for safe storage, including any incompatibilities

The tanks and equipment used to store and pump liquid fertilisers should be capable of handling all liquid fertilisers likely to be stored in them, including commonly used products such as EASY N (Urea Ammonium Nitrate Solution). For more detail on appropriate tanks, fittings, pumps and hoses, refer to the EASY N SDS.
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.
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.
Store so as to prevent contamination by or of oxidising agents and acids, and away from farm chemicals, e.g. insecticides, fungicides and herbicides, and foodstuffs.
Check regularly for leaks or spills.
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

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	LIQUID
Odour	MILD ACID ODOUR
Flammability	NON FLAMMABLE
Flash point	NOT RELEVANT
Boiling point	> 100°C
Melting point	Liquid at ambient temperatures
Evaporation rate	NOT AVAILABLE
pH	3.5 to 7
Vapour density	NOT AVAILABLE
Relative density	1.1 to 1.33
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	NOT AVAILABLE
Explosive properties	NOT AVAILABLE
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE

9.2 Other information

Freezing point	< 0°C (constituents may salt out around and below 5°C.)

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

Cold temperatures (constituents will salt out around 5°C), high temperatures (as ammonia gas may evolve from the fertiliser solution) and fire conditions (which may cause the fertiliser to boil, evaporate and decompose).

10.5 Incompatible materials

Incompatible with combustible materials, and reducing agents (e.g. sulphites).

10.6 Hazardous decomposition products

May evolve toxic gases if heated to decomposition.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity Acute exposure may result in nausea, vomiting, abdominal pain, diarrhoea, dizziness and headache. This product contains up to 2.5% fluoride (F) as an impurity. Chronic ingestion (e.g. improper or inadvertent use as a dietary phosphorus supplement for ruminants (i.e. cattle and sheep)) may result in fluorosis.

Information available for the ingredients:

Ingredient	Oral LD50	Dermal LD50	Inhalation LC50
AMMONIUM NITRATE	2217 mg/kg (rat)	> 5000 mg/kg (rat)	--
POTASSIUM NITRATE	3015 mg/kg (rat)	> 5000 mg/kg (rat)	> 0.527 mg/L/4h (rat)
UREA	> 5000 mg/kg (rat)	> 5000 mg/kg (rat)	No data but expected to be low toxicity
POTASSIUM PHOSPHATE, DIBASIC	1700 mg/kg (mouse); 8000 mg/kg (rat)	> 4640 mg/kg (rabbit)	--
MONOAMMONIUM PHOSPHATE	5,750 mg/kg (rat)	> 7,940 mg/kg (rabbit)	--
POTASSIUM DIHYDROGEN PHOSPHATE	> 2,000 mg/kg (rat)	> 2,000 mg/kg (rabbit)	> 0.83 mg/l/4hrs - dust/mist (rat)
DIAMMONIUM HYDROGEN ORTHOPHOSPHATE	> 6500 mg/kg (rat)	< 7950 mg/kg (rabbit)	--

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 may result in irritation of the nose and throat, with coughing.

STOT - repeated exposure Over exposure to nitrates may result in methaemoglobinemia (inability of the blood to transport oxygen) with symptoms including cyanosis (bluish discolouration of the skin and mucous membranes) headache, dizziness, fatigue, heart and thyroid damage. However, due to the product form and nature of use, the risk of adverse health effects may be reduced.

Aspiration Not classified as causing aspiration.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Nitrate-containing fertilisers can contribute to eutrophication in aquatic environments, leading to excessive algal blooms that deplete oxygen and harm aquatic organisms. Avoid spills and contamination of waterways. EASY NPK 27 contains nitrogen and phosphorus, both of which can stimulate weed and algal growth if lost to static surface waterways. Algae affect water quality and taste.

The nitrogen is present in the ammonium form. With time ammonium is converted to nitrate. Depending on the concentration and fish species, ammonium may be toxic to aquatic life. Nitrate is susceptible to leaching and may contaminate groundwater. High nitrate concentrations may render water unsuitable for human and livestock consumption.

12.2 Persistence and degradability

Nitrates are highly persistent in the environment as they do not degrade easily under typical conditions. They remain dissolved in water and can accumulate in surface and groundwater.

12.3 Bioaccumulative potential
Nitrates themselves are not bioaccumulative.

12.4 Mobility in soil
Nitrates are highly mobile in soil and water due to their high solubility. They can leach into groundwater or run off into surface water, especially after heavy rainfall or excessive application.

12.5 Other adverse effects
Avoid contamination of drains and waterways.

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 fertiliser.
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 before planting a crop, or as a directed spray between the plant rows and 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

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 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.

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