

## MATERIAL SAFETY DATA SHEET

### A. GENERAL INFORMATION

**TRADE NAME:** LIQUID FER-N  
**CHEMICAL NAME:** Mix of Urea and iron sulphate

### B. FIRST AID

**EYES** : Immediately flush with water, continuing for at least 15  
 If irritation persists, seek medical attention.

**SKIN** : Immediately flush thoroughly with water. If irritation persists,  
 seek medical attention.

**INHALATION** : Remove victim to fresh air.

**INGESTION:** If conscious, immediately give two to four glasses of water and  
 induce vomiting by touching finger to back of throat. Seek  
 medical attention.

### C. HAZARDS INFORMATION - HEALTH

Based on available information, not classified as hazardous according to Worksafe  
 Australia

**INHALATION** : In the unlikely event that mist is formed, respiratory tract  
 would be irritated.

**INGESTION** : Acute toxicity screening tests of indicate low potential for acute  
 oral toxicity. These tests indicate LD50 (rat) to exceed 2500 mg  
 per kilogram of body Weight.

**SKIN** : Prolonged or repeated liquid contact may cause slight  
 irritation

**EYES** : Liquid contact may cause slight irritation. If mist is formed,  
 slight irritation may result.

**Permissible concentration**

**Air:** Not established  
**Biological:** Not established

**Unusual chronic toxicity** Not established

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## C. HAZARDS INFORMATION - Fire and Protection

FLASH POINT:N/A

AUTO IGNIT. TEMPERATURE:

FLAMMABLE LIMITS IN

AIR:

Open Cup

Not Applicable

Upper: N/A

Closed Cup

Lower: N/A

( % by Vol )

### UNUSUAL FIRE AND EXPLOSIVE HAZARDS

None

## D. PRECAUTIONS / PROCEDURES

### FIRE EXTINGUISHING AGENTS - RECOMMENDED

Water

### FIRE EXTINGUISHING AGENTS - TO AVOID

All standard agents are acceptable.

### SPECIAL FIRE FIGHTING PRECAUTIONS

Wear self-contained breathing apparatus approved by NIOSH. Use water spray to keep containers cool.

### VENTILATION

Unless heated, sprayed or agitated to produce mist, natural ventilation is adequate.

### NORMAL HANDLING

Avoid breathing mist. Minimise contact with eyes, skin and clothing.

### STORAGE

Store in cool area, out direct sunlight, if in small quantities.

### SPILL OR LEAK

Contain and mop up or pump spilled material into metal or plastic drums as soon as possible to minimise environmental contamination.

### SPECIAL PRECAUTIONS/PROCEDURES/LABEL INSTRUCTIONS

Avoid containers, piping or fittings made of copper, zinc or any of their alloys, such as brass, bronze or galvanised metals.

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## E. PERSONAL PROTECTIVE EQUIPMENT

### RESPIRATORY PROTECTION

Respiratory are not required for normal ventilation. If misty conditions prevail, due to heat, spraying or agitation, a respirator approved by NIOSH should be worn which is appropriate for the exposure concentration.

### EYES AND FACE

Chemical safety goggles and full face shield. Do Not wear contact lenses.

### HANDS, ARMS AND BODY

Wear rubber gloves and apron to prevent prolonged or repeated contact with the skin.

### OTHER CLOTHING AND EQUIPMENT

Not generally required.

## F. PHYSICAL DATA

MATERIAL IS (at normal conditions)	APPEARANCE & ODOUR
X Liquid                      Solid                      Gas	Clear, bluish-green liquid with slight amine odour.

**BOILING POINT:** 219 ° F - Effervescence @ 187 ° F

**MELTING POINT:** Salt out temperature < 0 ° F

**SPECIFIC GRAVITY (H<sub>2</sub>O = 1):** 1.29 60 ° / 60 ° F

**VAPOUR DENSITY (AIR = 1):** Not determined

SOLUBILITY IN WATER ( % BY WT)	pH	VAPOUR PRESSURE
100 %	9.0 - 10.5	Not determined (mm Hg @ 20C) (PSIG)

EVAPORATION RATE	% VOLATILES BY VOLUME ( AT 20C)	
Not determined (Buty acetate = 1)	(Ether = 1)	

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## REACTIVITY DATA

### STABILITY

unstable

Stable

### CONDITIONS TO AVOID

Avoid high storage temperatures – above 125°F for short periods or 105°F for any prolonged time period.

### INCOMPATIBILITY (materials to avoid)

Avoid mixing or contact with strong acidic materials. Avoid any materials which may suppress pH below 8.0. If prolonged storage is to follow.

### HAZARDOUS DECOMPOSITION PRODUCTS

Thermal decomposition from excessive heat (such as fire) may release ammonia and carbon dioxide.

### HAZARDOUS POLYMERISATION

May occur

Will not occur

### CONDITIONS TO AVOID

Temperatures of 125°F or greater.

Contact with acidic materials.

## H. HAZARDOUS INGREDIENTS (mixtures only)

Not applicable.

## I. ENVIRONMENTAL

### DEGRADABILITY / AQUATIC TOXICITY

Will not cause significant environmental impact.

### EPA HAZARDOUS SUBSTANCE?

Yes

No

### IF SO, REPORTABLE QUANTITY:

Not applicable.

### WASTE DISPOSAL METHOD (disposer must comply with disposal & discharge law)

Disposal of fertilizer may be subject to federal, state, and local regulations. Users of this product should review their operations in terms of applicable federal, state and local laws and regulations, then consult with appropriate regulatory agencies before discharging or disposing of waste material or the virgin product.

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**J. REFERENCES**

**IS THIS A LISTED MATERIAL?**

	YES	NO		YES	NO
NTP (List)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	OSHA (carcinogen)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
IARC ( Monographs)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	ACGIH (TVL List)	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SECTION A- CAS NUMBERS: UREA - 57-13-6;  
 IRON SULPHATE - 7782-63-0  
 CHEMICAL NAME: THIS PRODUCT, DEPENDING ON SPECIFIC FORMULATION, WILL CONTAIN BETWEEN 13-14% TOTAL PLANT FOOD NITRGOEN (TYPICALLY 28%).  
 FORMULA - COMPONENTS: UREA - CH4N20  
 IRON SULPHATE -

SECTION 1 IMMEDIATE HEALTH X  
 DELAYED HEALTH  
 SUDDEN PRESSURE RELEASE  
 FIRE  
 REACTIVE

NFPA 40 CFR 372 - TOXIC CHEMICAL RELEASE REPORTS - NONE  
 HEALTH - 1 INSTABILITY - 0  
 FIRE - 0 SPECIAL PRECAUTIONS - NONE

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## GLOSSARY:

ACGIH	:	AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS
AEL	:	ACCEPTABLE EXPOSURE LIMIT
CAS	:	CHEMICAL ABSTRACTS SERVICE (IDENTIFIES SPECIFIC CHEMICALS)
CERCLA	:	COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND
LIABILITY ACT		(SUPERFUND)
CFR	:	CODE OF FEDERAL REGULATIONS
CHEMTREC	:	CHEMICAL TRANSPORTATION EMERGENCY CENTER
DOT	:	U.S. DEPARTMENT OF TRANSPORTATION
EPA	:	ENVIRONMENTAL PROTECTION AGENCY
IARC	:	INTERNATIONAL AGENCY FOR RESEARCH ON CANCER
IMO	:	INTERNATIONAL MARINE ORGANISATION
LD50/LC50	:	DOSE OR CONCENTRATION CAUSING 50% DEATH IN ANIMALS
LEL-UEL	:	LOWER AND UPPER EXPLOSIVE LIMIT CONCENTRATIONS
MG/M3	:	MILLIGRAMS PER CUBIC METERS OF AIR
NIOSH	:	NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH
NFPA	:	NATIONAL FIRE PROTECTION ASSOCIATION
NTP	:	NATIONAL TOXICOLOGY PROGRAM
OSHA	:	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PEL	:	PERMISSIBLE EXPOSURE LIMIT VALUES SET BY OSHA
PPM	:	PARTS PER MILLION
PSIA	:	POUNDS PER SQUARE INCH ABSOLUTE
STEL	:	SHORT TERM EXPOSURE LIMIT (15 MINUTES)
TLV	:	THRESHOLD LIMIT VALUE (AIRBORNE CONCENTRATION OF A SUBSTANCE, SET
BY		ACHIH, THAT AN AVERAGE WORKER CAN REPEATEDLY BE EXPOSED TO
WITHOUT		ANY ADVERSE EFFECT)
TSCA	:	TOXIC SUBSTANCES CONTROL ACT
TWA	:	TIME WEIGHTED AVERAGE (FOR EXPOSURE TO A SUBSTANCE)
UN/NA NO.	:	DOMESTIC AND INTERNATIONAL IDENTIFICATION NUMBERS ASSIGNED TO
		HAZARDOUS MATERIALS

## NFPA DEFINITIONS:

### HEALTH HAZARD -

4 - DANGER: MAY BE FATAL ON SHORT EXPOSURE. SPECIALISED PROTECTIVE EQUIPMENT REQUIRED.

3 - WARNING: CORROSIVE OR TOXIC. AVOID SKIN CONTACT OR INHALATION.

2 - WARNING: MAY BE HARMFUL IF INHALED OR ABSORBED.

1 - CAUTION: MAY CAUSE IRRITATION.

0 - NO UNUSUAL HAZARD.

### FIRE HAZARD -

4 - DANGER: FLAMMABLE GAS OR EXTREMELY FLAMMABLE LIQUID.

3 - WARNING: FLAMMABLE LIQUID FLASH POINT BELOW 100 DEG.F.

2 - CAUTION: COMBUSTIBLE LIQUID. FLASH POINT OF 100 DEG. F - 200 DEG. F.

1 - COMBUSTIBLE IF HEATED.

0 - NOT COMBUSTIBLE.

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## INSTABILITY HAZARD -

- 4 - DANGER: EXPLOSIVE MATERIAL AT ROOM TEMPERATURE.
- 3 - DANGER: MAY BE EXPLOSIVE IF SHOCKED, HEATED UNDER CONFINEMENT OR MIXED WITH WATER.
- 2 - WARNING: UNSTABLE, OR MAY REACT IF MIXED WITH WATER.
- 1 - CAUTION: MAY REACT IF HEATED OR MIXED

## FIRE HAZARD

- 4 - Danger: Flammable gas or extremely flammable liquid.
- 3 - Warning: Flammable liquid flash point below 100°F.
- 2 - Caution: Combustible liquid, flash point of 100 to 200 °F
- 1 - Combustible if heated
- 0 - Not Combustible

## INSTABILITY HAZARD

- 4 - Danger: Explosive material at room temperature.
- 3 - Danger: May be explosive if shocked, heated under confinement or mixed with water
- 2 - Warning: Unstable or may react if mixed with water
- 1 - Caution: May react if heated or mixed with water.
- 0 - Stable: Not reactive when mixed with water.

## SYMBOLS

- |                               |                 |                           |
|-------------------------------|-----------------|---------------------------|
| <b>W</b> - Avoid use of water | ALK - Alkaline  | ACID - Acid               |
| - Radiation                   | COR - Corrosive | OXY - Oxidising chemicals |

## \*\*\*\*\*Notice\*\*\*\*\*

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