

Date of issue/ Date of revision : 23.09.2016
Date of previous issue : 22.09.2016
Version : 1.2



SAFETY DATA SHEET

Ammonium Nitrate Solution 90 - 96% AU SITE VERSION

Section 1. Identification

Product name : Ammonium Nitrate Solution 90 - 96% AU SITE VERSION
Product type : Liquid
Product code : PA08FL
ADG Class : HOT AMMONIUM NITRATE, LIQUID

Uses

Area of application : Industrial applications, Professional applications

Supplier

Supplier's details : YARA PILBARA FERTILISERS PTY LTD

Address

Street : Level 5, 182 St Georges Terrace
Postal code : 6000
City : Perth
Country : Australia

Telephone number : +61 8 9183 4000
Fax no. : +61 8 9185 6776
e-mail address of person responsible for this SDS : Info.yara.pilbara@yara.com
Emergency telephone number (with hours of operation) : 1800 117 506 (24 HRS)

National advisory body/Poison Center

Name : WA Poisons Information Centre
Telephone number : 131126
Hours of operation : 24 hours, within Australia only

Section 2. Hazards identification

Classification and labelling have been performed following the guidelines and recommendation of GHS and the intended use.

Classification of the substance or mixture : OXIDIZING LIQUIDS - Category 3
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A

GHS label elements

Hazard pictograms :



- Signal word** : Warning
- Hazard statements** : May intensify fire; oxidizer.
Causes serious eye irritation.

Precautionary statements

- Prevention** : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take any precaution to avoid mixing with combustibles. Wear protective gloves/clothing and eye/face protection.
- Response** : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.
In case of fire: Use flooding quantities of water to extinguish.
- Statement of hazardous/dangerous nature** : HAZARDOUS SUBSTANCE.
DANGEROUS GOODS.
- Other hazards which do not result in classification** : Heated material can cause thermal burns.

Section 3. Composition/information on ingredients

- Substance/mixture** : Mixture

Product / ingredient name	Identifiers	%
ammonium nitrate	CAS: 6484-52-2	>=90 - <=96
water	CAS: 7732-18-5	>=4 - <=10

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Rinse with plenty of running water. Check for and remove any contact lenses. Get medical attention.
- Inhalation** : Avoid inhalation of vapor, spray or mist. If inhaled, remove to fresh air. Get medical attention if you feel unwell.
- Skin contact** : Wash with soap and water. Get medical attention if irritation develops.
- Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Get medical attention.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Irritating to eyes.

- Inhalation** : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact** : May cause skin irritation.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms include the following:
pain or irritation
redness
- Ingestion** : Adverse symptoms may include the following:
stomach pains

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : Heated material can cause thermal burns. Immerse in cool water. Product residues are easily soluble in water. Treat symptomatically.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use flooding quantities of water to extinguish.
- Unsuitable extinguishing media** : Do NOT use chemical extinguisher or foam or attempt to smother the fire with steam or sand.
- Specific hazards arising from the chemical** : Contact with combustible material may cause fire. This material increases the risk of fire and may aid combustion. In a fire or if heated, a pressure increase will occur and the container may burst.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
nitrogen oxides
Avoid breathing dusts, vapors or fumes from burning materials.
In case of inhalation of decomposition products in a fire, symptoms may be delayed.
- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move

- containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- Remark** : Non-explosive.
- Hazchem code** : 1Y

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- Personal precautions, protective equipment and emergency procedures** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and material for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Do not absorb in sawdust or other combustible material. It may lead to a fire risk when it dries out. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Do not absorb in sawdust or other combustible material. It may lead to a fire risk when it dries out. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Precautions for safe handling** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from combustible material. Empty containers retain product residue and can be hazardous. Do not reuse container. See also Section 8 for additional information on hygiene measures.
- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Separate from reducing agents and combustible materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.
- Combustible liquid** : Not applicable.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None.

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Wash contaminated clothing before reusing. A washing facility or water for eye and skin cleaning purposes should be present.

Skin protection

- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. If contact with the liquid is possible, insulated gloves suitable for low temperatures should be worn.
- Other skin protection** : When handling hot material, wear heat-resistant protective gloves, clothing and face shield that are able to withstand the

- Respiratory protection** : temperature of the molten product.
 : In case of inadequate ventilation wear respiratory protection.
 Use a properly fitted, air-purifying or air-fed respirator
 complying with an approved standard if a risk assessment
 indicates this is necessary.

Section 9. Physical and chemical properties

Appearance

- Physical state** : Liquid
Color : Colorless.
Odor : Ammonia or Nitric acid, depending on pH.
Odor threshold : Not determined.
pH : 5 - 7 [Conc.: 100 g/l]

Melting/freezing point : 57 - 110 °C

Boiling/condensation point : 128 - 160 °C
 (262.40 - 320.00 °F)

Sublimation temperature : Not determined.
Flash point : Not determined.
Evaporation rate : Not determined.
Flammability : Non-flammable.

Lower and upper explosive (flammable) limits : **Lower:** Not determined.
Upper: Not determined.
Vapor pressure : Not determined.
Relative density : > 1.38

Solubility : Not determined.
Solubility in water : Miscible in water.

Partition coefficient: n-octanol/water : Not determined.
Auto-ignition temperature : Not determined.
Decomposition temperature : Not determined.
Viscosity : **Dynamic:** Not determined.
Kinematic: Not determined.

Explosive properties : Non-explosive.
Oxidizing properties : Oxidizer

Section 10. Stability and reactivity

- Chemical stability** : The product is stable.

Possibility of hazardous reactions : Hazardous reactions or instability may occur under certain conditions of storage or use.
 Conditions may include the following:
 contact with combustible materials
 Reactions may include the following:
 risk of causing or intensifying fire

Conditions to avoid : May decompose violently when molten due to shock or pressure. Drying on clothing or other combustible materials

may cause fire.

Incompatible materials : Reactive or incompatible with the following materials:
alkalis
combustible materials
reducing materials
organic materials
acids

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced., Emits toxic fumes when heated., Decomposition products may include the following materials:, nitrogen oxides (NO, NO2 etc.)

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product / ingredient name	Result	Species	Dose	Exposure	References
ammonium nitrate					
	LD50 Oral	Rat	2,950 mg/kg OECD 401	Not applicable.	IUCLID 5
	LD50 Dermal	Rat	> 5,000 mg/kg OECD 402	Not applicable.	IUCLID 5
water					

Conclusion/Summary : No known significant effects or critical hazards.

Irritation/Corrosion

Product / ingredient name	Result	Species	Score	Exposure	Observation	References
ammonium nitrate	Eyes - Irritant OECD 405	Rabbit	Not applicable.		Not applicable.	IUCLID 5

Conclusion/Summary

Skin : Heated material will cause thermal burns.

Eyes : Causes serious eye irritation. Heated material will cause thermal burns.

Respiratory : May be irritating to the respiratory system.

Sensitization

Conclusion/Summary

Skin : No known significant effects or critical hazards.

Respiratory : No known significant effects or critical hazards.

Mutagenicity

Conclusion/Summary : No known significant effects or critical hazards.

Carcinogenicity

Conclusion/Summary : No known significant effects or critical hazards.

Reproductive toxicity

Product / ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure	References
ammonium nitrate	Not applicable.	Negative	Negative	Rat	Oral: > 1500 mg/kg bw/day OECD 422	28 days	IUCLID 5

Conclusion/Summary : No known significant effects or critical hazards.

Teratogenicity

Conclusion/Summary : No known significant effects or critical hazards.

Specific target organ toxicity (single exposure)

Specific target organ toxicity (repeated exposure)

Aspiration hazard

Information on the likely routes of exposure : Not available.

Potential acute health effects

- Eye contact** : Irritating to eyes.
- Inhalation** : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact** : May cause skin irritation.
- Ingestion** : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms include the following:
pain or irritation
redness
- Ingestion** : Adverse symptoms may include the following:
stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Potential chronic health effects

Product / ingredient name	Result	Species	Dose	Exposure	References
ammonium nitrate	NOAEL Oral	Rat	256 mg/kg OECD 422	28days	IUCLID 5
ammonium nitrate	No-observable-effect-concentration Dusts and mists Inhalation	Rat	> 185 mg/kg OECD 412	2weeks 5 hours per day	IUCLID 5

Conclusion/Summary : No known significant effects or critical hazards.

- General** : No known significant effects or critical hazards.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : No specific data.

Skin contact : Adverse symptoms include the following:
pain or irritation
redness

Ingestion : Adverse symptoms may include the following:
stomach pains

Target organs : Not available.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Product / ingredient name	Result	Species	Exposure	References
ammonium nitrate				
	Acute LC50 447 mg/l Fresh water	Fish - Labeo boga	48 h	IUCLID 5
	Acute EC50 490 mg/l Fresh water	Aquatic invertebrates.	48 h	IUCLID 5
	Acute EC50 1,700 mg/l Salt water	Aquatic plants	10 d	IUCLID 5

Conclusion/Summary : No known significant effects or critical hazards.

Persistence/degradability

Product / ingredient name	Aquatic half-life	Photolysis	Biodegradability
ammonium nitrate			
	Not applicable.	Not applicable.	Not relevant for inorganic substances.
water			
	Not applicable.	Not applicable.	Inherently biodegradable

Conclusion/Summary : No known significant effects or critical hazards.

Bioaccumulative potential

Product / ingredient name	LogPow	BCF	Potential
water	-1.38	Not applicable.	low

Conclusion/Summary : No known significant effects or critical hazards.

Mobility in soil

Soil/water partition coefficient (KOC) : Not available.
Mobility : Not available.
Other adverse effects : No known significant effects or critical hazards.


Section 13. Disposal considerations


Product

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled.


Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

Regulation: UN Class	
14.1 UN number	2426
14.2 UN proper shipping name	HOT AMMONIUM NITRATE, LIQUID
14.3 Transport hazard class(es)	5.1 
14.4 Packing group	
14.5 Environmental hazards	No.
Additional information <u>Environmental hazards</u> : No.	

Regulation: IMDG	
14.1 UN number	2426
14.2 UN proper shipping name	HOT AMMONIUM NITRATE, LIQUID
14.3 Transport hazard class(es)	5.1 
14.4 Packing group	
14.5 Environmental hazards	No.
Additional information <u>Marine pollutant</u> : No. <u>IMDG Code Segregation group</u> : SG02 <u>Emergency schedules (EmS)</u> : F-H, S-Q	

Regulation: IATA	
14.1 UN number	2426
14.2 UN proper shipping name	HOT AMMONIUM NITRATE, LIQUID
14.3 Transport hazard class(es)	5.1

	
14.4 Packing group	
14.5 Environmental hazards	No.
Additional information <u>Marine pollutant</u>	: No.

14.6 Special precautions for user : Transport within user's premises: Ensure that persons transporting the product know what to do in the event of an accident or spillage.

IMSBC : Not applicable.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

Standard for the Uniform Scheduling of Drugs and Poisons

- Not regulated.

Model Work Health and Safety Regulations - Scheduled Carcinogens

Not applicable.

Australia inventory (AICS) : All components are listed or exempted.
EU Classification : O, R8
 Xi, R36

International lists

Philippines inventory (PICCS): All components are listed or exempted.

New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.

Korea inventory: All components are listed or exempted.

Japan inventory: All components are listed or exempted.

China inventory (IECSC): All components are listed or exempted.

Australia inventory (AICS): All components are listed or exempted.

Canada inventory (DSL and NDSL): All components are listed or exempted.

Malaysia Inventory (EHS Register): All components are listed or exempted.

Taiwan inventory (CSNN): All components are listed or exempted.

United States inventory (TSCA 8b): All components are listed or exempted.

EC INVENTORY (EINECS/ELINCS): All components are listed or exempted.

Safety, health and environmental regulations specific for the product : No known other specific national and/or regional regulations applicable to this product (including its ingredients).

Section 16. Other information

Key to abbreviations :

- ADN/ADNR = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
- ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- bw = Body weight
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
- NOHSC - National Occupational Health and Safety Commission
- RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
- SUSDP - Standard for the Uniform Scheduling of Drugs and Poisons
- UN = United Nations

References :

- EU REACH IUCLID5 CSR.
- National Institute for Occupational Safety and Health, U.S. Dept. of Health, Education, and Welfare, Reports and Memoranda Registry of Toxic Effects of Chemical Substances.
- IHS, 4777 Levy Street, St Laurent, Quebec HAR 2P9, Canada.

History

Date of printing : 23.09.2016
Date of issue/Date of revision : 23.09.2016
Date of previous issue : 22.09.2016
Revision comments : Section 2. Classification
Version : 1.2
Prepared by : Yara Chemical Compliance (YCC).

|| 1) Indicates information that has changed from previously issued version.

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