



SAFETY DATA SHEET

YaraMila™ Unik 16

1. Identification of the substance/preparation and of the company/undertaking

Identification of the substance or preparation

Product name : YaraMila™ Unik 16
Synonyms : Complex fertilizer NPK 16-16-16

Use of the substance/preparation : EC Fertilizer

Company/undertaking identification

Manufacturer / Supplier : Yara Australia Pty Ltd
 201 Miller Street, Mezzanine Level
 North Sydney
 NSW 2060 Australia

Tel: +61 2 9959 4266
 Fax: +61 2 9959 4050

e-mail address of person responsible for this SDS : yaraasiapacific@yara.com

Emergency telephone number : +61 4 1722 3075 (24h)

2. Hazards identification

The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.

See section 11 for more detailed information on health effects and symptoms.

3. Composition/information on ingredients

Substance/preparation : Preparation

Ingredient name	CAS number	%	EC number	Classification
Ammonium nitrate	6484-52-2	<70	229-347-8	O; R8
ammonium chloride	12125-02-9	<15	235-186-4	Xn; R22 [1] [2] Xi; R36
Potassium nitrate	7757-79-1	2 - 10	231-818-8	O; R8
See section 16 for the full text of the R-phrases declared above				

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.

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

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

Contains some or all of the following in addition to ammonium nitrate (<24,5% N as ammonium nitrate):- mono and di ammonium phosphate, potassium chloride, potassium sulphate, inert fillers and/or secondary nutrients and micro nutrients.

The nitrate(s) is/are classified as oxidizer(s) in accordance with the EU Directives 67/548/EEC. With reference to Annex VI, 2.1 second paragraph, the correct hazard is "May intensify fire" as proposed in the UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

4. First-aid measures

- Inhalation** : Avoid breathing dust. If inhaled, remove to fresh air.
- Ingestion** : If large quantities of this material are swallowed, call a physician immediately. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.
- Skin contact** : Avoid prolonged or repeated contact with skin. After handling, always wash hands thoroughly with soap and water. Get medical attention if irritation develops.
- Eye contact** : In case of contact with eyes, rinse immediately with plenty of water. Get medical attention if irritation occurs.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.
- See section 11 for more detailed information on health effects and symptoms.

5. Fire-fighting measures

- Extinguishing media** : Use water only in flooding quantities to fight the fire. Do NOT use chemical extinguisher or foam or attempt to smother the fire with steam or sand.
Avoid breathing dusts, vapours or fumes from burning materials. In case of inhalation of decomposition products in a fire, symptoms may be delayed.
- Hazardous thermal decomposition products** : These products are: carbon oxides (CO, CO₂), nitrogen oxides (NO, NO₂...), sulphur oxides (SO₂, SO₃, etc.), halogenated compounds, phosphates, hydrogen chloride.
- 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** : The product itself is not combustible but it can support combustion, even in absence of air. On heating it melts and further heating can cause decomposition, releasing toxic fumes containing nitrogen oxides and ammonia.

6. Accidental release measures

- Personal precautions** : Follow all fire-fighting procedures (section 5).
- Environmental precautions and clean-up methods** : Avoid contact of spilt material and runoff with soil and surface waterways.
: Use a tool to scoop up solid material and place into an appropriate labelled waste container. Do not mix with sawdust or other combustible material. Avoid creating dusty conditions and prevent wind dispersal. Keep out of waterways. See section 13 for waste disposal information.

Note: see section 8 for personal protective equipment and section 13 for waste disposal.

7. Handling and storage

- Handling** : Avoid creating dusty conditions and prevent wind dispersal. Avoid all possible sources of ignition (spark or flame). Avoid contamination by any source including metals, dust and organic materials.
- Storage** : Store and use away from heat, sparks, open flame or any other ignition source. Avoid contact with combustible materials. Prevent moisture pick-up in handling and storage.
Separate from reducing agents and combustible materials. Keep away from acids or bases. On farm keep away from hay, grain, diesel, etc.
- Packaging materials**
- Recommended** : Use original container.

8. Exposure controls/personal protection

Ingredient name

ammonium chloride

Occupational exposure limits

ACGIH TLV (United States, 1/2008).

STEL: 20 mg/m³ 15 minute(s). Form: Fume

TWA: 10 mg/m³ 8 hour(s). Form: Fume

Exposure controls

8. Exposure controls/personal protection

- 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. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- 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. >8 hours (breakthrough time): leather , natural rubber (latex) , butyl rubber
- Eye protection** : Use dust goggles if high dust concentration is generated.
- Skin protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved.
- 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.

9. Physical and chemical properties

General information

Appearance

Physical state : Solid. [Solid beads.]

Odour : Odourless.

Important health, safety and environmental information

pH : 4 to 6 [Conc. (% w/w): 10%]

Boiling point : Decomposes.

Melting/freezing point : 140 to 150°C

Density (g/cm³) : 0,95 to 1,2 g/cm³

Solubility : Soluble in the following materials: cold water

10. Stability and reactivity

- Stability** : Stable under recommended storage and handling conditions (see section 7).
- Hazardous decomposition products** : These products are: carbon oxides (CO, CO₂), nitrogen oxides (NO, NO₂...), sulphur oxides (SO₂, SO₃, etc.), halogenated compounds, phosphates, hydrogen chloride.
- Remark** : A NPK fertilizer not liable to self-sustaining decomposition according to the IMO-standard trough test as defined in the recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria, 2. part III, section 38.

11. Toxicological information

Potential acute health effects

Adverse health effects are considered unlikely, when the product is used according to directions.

Product/ingredient name	Result	Species	Dose	References
Ammonium nitrate	LD50 Oral	Rat	2217 mg/kg	GISAAA 52(8),25,1987
	TDL _o Oral	Rat	10 mg/kg	VCVN5* - ,49,1993
ammonium chloride	LD50 Intramuscular	Rat	30 mg/kg	EMSUA8 4,223,1946
	LD50 Oral	Rat	1650 mg/kg	28ZPAK - ,15,1972
	LD50 Unreported	Rat	550 mg/kg	FRXXBL #2444025
	LDLo Intraperitoneal	Rat	140 mg/kg	VCVN5* - ,17,1993
Potassium nitrate	LD50 Oral	Rat	3540 mg/kg	VCVN5* - ,49,1993
	LD50 Oral	Rat	3750 mg/kg	NYKZAU 81,469,1983
	TDL _o Oral	Rat	10 mg/kg	VCVN5* - ,49,1993
Preparation	LD50 Oral	Rat	>2000 mg/kg	-

11. Toxicological information

Potential chronic health effects

Chronic effects	: 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	
Inhalation	: No specific data.
Ingestion	: No specific data.
Skin	: No specific data.
Eyes	: No specific data.

12. Ecological information

Environmental effects : Used in excess quantities the product can cause eutrophication in water.

Aquatic ecotoxicity

Product/ingredient name

ammonium chloride

Test Result

Acute LC50 0,28 mg/L
Fresh water

Species

Daphnia - Water
flea -
Ceriodaphnia
dubia - Neonate
- 24 hours

Exposure

48 hours

References

Environ.Toxicol.Chem.
8(12):1177-1189

Acute LC50 0,16 mg/L
Fresh water

Fish - Rainbow
trout,donaldson
trout -
Oncorhynchus
mykiss - FRY -
1,7 to 1,9 cm

96 hours

Rapp.P.-
V.Reun.Cons.Int.Explor.Mer.
178:81-86

Acute LC50 1420 to 1540
ug/L Fresh water

Crustaceans -
Shrimp - Paratya
curvirostris -
Adult

48 hours

N.Z.J.Mar.Freshw.Res.
31(2):185-190

Potassium nitrate

Acute LC50 490 mg/L
Fresh water

Daphnia - Water
flea - Daphnia
magna

48 hours

J.Water
Pollut.Control Fed.
37(9):1308-1316

Acute LC50 180 mg/L
Fresh water

Fish - Guppy -
Poecilia
reticulata - FRY

96 hours

Water
Resour.Center
Rep.No.490, Ohio
State University,
Columbus, OH:47
p.(U.S.NTIS PB-
255721)

Preparation

Acute LC50 >100 mg/L

Fish

96 hours

-

Conclusion/Summary

: Most inorganic compounds are not biodegradable. The product does not show any bioaccumulation phenomena.

Other ecological information

Bioaccumulative potential

Product/ingredient name

Ammonium nitrate

LogP_{ow}

-3,1

BCF

-

Potential

low

Conclusion/Summary

: The product is not expected to harm the environment when used properly according to directions.

Other adverse effects

: No known significant effects or critical hazards.

13. Disposal considerations

- Methods of disposal** : Empty containers or liners may retain some product residues. Do not empty into drains; dispose of this material and its container in a safe way. Dispose of in accordance with all applicable local and national regulations
- Hazardous waste** : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC..

14. Transport information

Not regulated.

Not classified as hazardous material according to UN Orange Book and international transport codes e.g. ADR (road), RID (rail), ADN (inland waterways) and IMDG (sea).

15. Regulatory information

EU regulations

- Risk phrases** : This product is not classified according to EU legislation.
- Product use** : Industrial applications.
- Classification and labelling have been performed according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and the intended use.
- Additional warning phrases** : Safety data sheet available for professional user on request.

16. Other information

- Full text of R-phrases referred to in sections 2 and 3 - Europe** : R8- Contact with combustible material may cause fire.
R22- Harmful if swallowed.
R36- Irritating to eyes.
- Full text of classifications referred to in sections 2 and 3 - Europe** : O - Oxidising
Xn - Harmful
Xi - Irritant
- References** : European Chemical Bureau, Annex 1 EU Directive 67/548/EEC
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
Atrion International Inc. 4777 Levy Street, St Laurent, Quebec HAR 2P9, Canada

History

- Date of printing** : 04/05/2009.
- Date of issue/Date of revision** : 04/05/2009.
- Date of previous issue** : No previous validation.
- Version** : 1
- Prepared by** : Yara Product Classification and Regulations
- Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information provided in this Safety Data Sheet is accurate as at the date of its issue. The information it contains is being given for safety guidance purposes and relates only to the specific material and uses described in it. This information does not necessarily apply to that material when combined with other material(s) or when used otherwise than as described herein. Final determination of the suitability of any material is the sole responsibility of the user. All materials may represent unknown hazards and should be used with caution. Yara International ASA disclaims any liability for loss or damage resulting from the use of any data, information or recommendations set out in this Safety Data Sheet.