

Conforms: GHS (rev 4) (2011)

(This Safety Data Sheet conforms to the requirements of the Hazard Communication Standard (HCS) (29 CFR 1910.1200(g)), revised in 2012.) - United States

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**Version** : 1.1



# SAFETY DATA SHEET

**YaraLiva UCAN-23**

## Section 1. Identification

**Product identifier** : YaraLiva UCAN-23  
**Product type** : liquid  
**Product code** : PYN21L

### Uses

**Area of application** : Professional applications  
**Material uses** : Fertilizers.

### Supplier

**Supplier's details** : Yara North America, Inc.

### Address

**Street** : 100 North Tampa Street, Suite 3200  
**Postal code** : 33602  
**City** : TAMPA  
**Country** : United States

**Telephone number** : +1 813 222 5700  
**Fax no.** : +1 813 875 5735  
**e-mail address of person responsible for this SDS** : yna-hesq@yara.com

**Emergency telephone number (with hours of operation)** : US: Chemtrec 24-hours Emergency Response: 1-800-424-9300  
Canada: 24 Hour Emergency Service, (Canutec 613-996-6666)

### National advisory body/Poison Center

**Name** : The National Poisons Emergency number  
**Telephone number** : 1 800 222 1222

## Section 2. Hazards identification

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification of the substance or mixture.** : SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1

### GHS label elements

**Hazard pictograms****Signal word**

: Danger

**Hazard statements**

: H318 Causes serious eye damage.

**Precautionary statements****Prevention  
Response**

: P280 Wear protective gloves and eye protection.  
 : P305 IF IN EYES:  
 P351 Rinse cautiously with water for several minutes.  
 P338 Remove contact lenses, if present and easy to do. Continue rinsing.  
 P310 Immediately call a POISON CENTER or doctor/physician.

**Hazards not otherwise classified**

: 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 vaporization 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.

### Section 3. Composition/information on ingredients

**Substance/mixture**

: Mixture

Ingredient name	CAS number	%
Ammonium nitrate	6484-52-2	>= 30 - < 35
Calcium nitrate	10124-37-5	>= 15 - < 20

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** : Immediately flush eyes with plenty of water for at least 15 minutes, keeping eyelids open. Check for and remove any contact lenses. Get medical attention immediately.
- Inhalation** : Avoid inhalation of vapor, spray or mist. If inhaled, remove to fresh air. Get medical attention immediately. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus.
- 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.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : Vapor may be irritating to eyes and respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : May cause burns to mouth, throat and stomach.

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : May cause burns to mouth, throat and stomach.

### 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** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash

contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None identified.
- Specific hazards arising from the chemical** : 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:  
carbon dioxide  
carbon monoxide  
nitrogen oxides  
ammonia  
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.
- 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-flammable.
- Remark** : None.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : 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. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- 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 materials for containment and cleaning up**

- Small spill** : Stop leak if without risk. Move containers from spill area. 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. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. 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**

##### **Protective measures**

- : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. 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 vaporization 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.

##### **Advice on general occupational hygiene**

- : 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. 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 a segregated and approved area. 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. Store locked up. 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. The tank/container should be placed within a bunker able to take the whole tank/container volume. 60° C Bund storage facilities to prevent soil and water pollution in the event of spillage.

## Section 8. Exposure controls/personal protection

### Control parameters

- Occupational exposure limits** : None.

- Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

- 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** : A washing facility or water for eye and skin cleaning purposes should be present.

- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.  
Recommended: Tightly-fitting goggles

### 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.

- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved.

- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

- 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.

## Section 9. Physical and chemical properties

### Appearance

Physical state	: liquid
Color	: Clear.
Odor	: None.
Odor threshold	: Not determined.
pH	: 6 - 6.5

Melting/freezing point	: Not determined.
Boiling/condensation point	: Not determined.
Sublimation temperature	: Not determined.
Flash point	: Not determined.
Fire point	: Not determined.
Evaporation rate	: Not determined.
Flammability (solid, gas)	: Non-flammable.

Lower and upper explosive (flammable) limits	: <b>Lower:</b> Not determined. <b>Upper:</b> Not determined.
Vapor pressure	: Not determined.
Relative density	: Not determined.
Solubility	: Not determined.
Partition coefficient: n-octanol/water	: Not determined.
Auto-ignition temperature	: Not determined.

Decomposition temperature	: Not determined.
Viscosity	: <b>Dynamic:</b> Not determined. <b>Kinematic:</b> Not determined.
Explosive properties	: None.
Oxidizing properties	: None

## Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Urea reacts with calcium hypochlorite or sodium hypochlorite to form the explosive nitrogen trichloride.
Conditions to avoid	: Avoid contamination by any source including metals, dust and organic materials.

- Incompatible materials** : alkalis  
combustible materials  
reducing materials  
Urea reacts with calcium hypochlorite or sodium hypochlorite to form the explosive nitrogen trichloride.  
organic materials  
Acids
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## 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
	LD50 Dermal	Rat	> 5,000 mg/kg OECD 402	Not applicable.	IUCLID
Calcium nitrate					
	LD50 Oral	Rat - Female	500 mg/kg OECD 423	Not applicable.	IUCLID 5
	LD50 Dermal	Rat	2,000 - 5,000 mg/kg OECD 402	Not applicable.	IUCLID

**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
Calcium nitrate	Eyes - Severe irritant OECD 405	Rabbit	Not applicable.	24 - 72 h	Not applicable.	

#### **Conclusion/Summary**

- Skin** : No known significant effects or critical hazards.
- Eyes** : Causes serious eye damage.
- Respiratory** : No known significant effects or critical hazards.



**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****Classification**

Product/ingredient name	OSHA	IARC	NTP
Calcium nitrate	Not applicable.	2A	Not applicable.

- 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
Calcium nitrate	Not applicable.	Negative	Negative	Rat	Oral: > 1500 mg/kg bw/day Repeated dose OECD 422	Not applicable.	IUCLID 5

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

**Specific target organ toxicity (single exposure)**

No known significant effects or critical hazards.

**Specific target organ toxicity (repeated exposure)**

No known significant effects or critical hazards.

**Aspiration hazard**

No known significant effects or critical hazards.

**Information on the likely routes of exposure** : Not available.

**Potential acute health effects**

**Eye contact** : Causes serious eye damage.  
**Inhalation** : Vapor may be irritating to eyes and respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.  
**Skin contact** : No known significant effects or critical hazards.  
**Ingestion** : May cause burns to mouth, throat and stomach.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Eye contact** : Adverse symptoms may include the following:  
 pain  
 watering  
 redness  
**Inhalation** : No specific data.  
**Skin contact** : No specific data.  
**Ingestion** : May cause burns to mouth, throat and stomach.

**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
	NOEC Dusts and mists Inhalation	Rat	> 185 mg/kg OECD 412	2weeks 5 hours per day	IUCLID 5
Calcium nitrate	NOAEL Oral	Rat	> 1,000 mg/kg OECD 407	28days	IUCLID 5

- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Effects on or via lactation** : No known significant effects or critical hazards.
- Other effects** : No known significant effects or critical hazards.

**Over-exposure signs/symptoms**

- Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness

- Inhalation** : No specific data.

- Skin contact** : No specific data.

- Ingestion** : May cause burns to mouth, throat and stomach.

**Numerical measures of toxicity****Acute toxicity estimates**

Route	ATE value
Oral	2,238.6 mg/kg

**Section 12. Ecological information****Toxicity**

Product/ingredient name	Result	Species	Exposure	References
<b>Ammonium nitrate</b>				
	Acute LC50 447 mg/l Fresh water	Fish	48 h	IUCLID 5
	Acute EC50 490 mg/l Fresh water	Daphnia	48 h	IUCLID 5
	Acute EC50 1,700 mg/l Salt water	Algae	10 d	IUCLID 5
<b>Calcium nitrate</b>				
	Acute LC50 1,378 mg/l Fresh water OECD 203	Fish	96 h	IUCLID 5
	Acute LC50 2,400 mg/l Fresh water	Bluegill	4 d	Proc. Acad. Nat. Sci. Philadelphia106: 185-205
	Acute LC50 490	Daphnia	48 h	IUCLID 5

	mg/l Fresh water			
	Acute EC50 > 1,700 mg/l Salt water	Algae	10 d	IUCLID 5

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

**Persistence and degradability**

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

**Bioaccumulative potential**

**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** : Not regulated.

**14.2 UN proper shipping name** : Not applicable.

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<b>14.3 Transport hazard class(es)</b>	Not applicable.
<b>14.4 Packing group</b>	Not applicable.
<b>14.5 Environmental hazards</b>	No.
<b>Additional information</b> <b><u>Environmental hazards</u></b> : No.	

<b>Regulation: IMDG</b>	
<b>14.1 UN number</b>	Not regulated.
<b>14.2 UN proper shipping name</b>	Not applicable.
<b>14.3 Transport hazard class(es)</b>	Not applicable.
<b>14.4 Packing group</b>	Not applicable.
<b>14.5 Environmental hazards</b>	
<b>Additional information</b> <b><u>Marine pollutant</u></b> : No.	

<b>Regulation: IATA</b>	
<b>14.1 UN number</b>	Not regulated.
<b>14.2 UN proper shipping name</b>	Not applicable.
<b>14.3 Transport hazard class(es)</b>	Not applicable.
<b>14.4 Packing group</b>	Not applicable.
<b>14.5 Environmental hazards</b>	
<b>Additional information</b>	

<b>Regulation: DOT Classification</b>	
<b>14.1 UN number</b>	Not regulated.
<b>14.2 UN proper shipping name</b>	Not applicable.
<b>14.3 Transport hazard class(es)</b>	Not applicable.
<b>14.4 Packing group</b>	Not applicable.
<b>14.5 Environmental hazards</b>	No.
<b>Additional information</b> <b><u>Marine pollutant</u></b> : Not available.	

<b>Regulation: TDG Class</b>	
<b>14.1 UN number</b>	Not regulated.
<b>14.2 UN proper shipping name</b>	Not applicable.
<b>14.3 Transport hazard class(es)</b>	Not applicable.
<b>14.4 Packing group</b>	Not applicable.

<b>14.5 Environmental hazards</b>	No.
<b>Additional information</b> <b><u>Environmental hazards</u></b>	: 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 and the IBC Code** : Not available.

## Section 15. Regulatory information

### United States

**U.S. Federal regulations** : TSCA 8(a) CDR Exempt/Partial exemption: Not determined

**Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)** : Not listed

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

### SARA 302/304

#### Composition/information on ingredients

No products were found.

**SARA 304 RQ** : Not applicable.

### SARA 311/312

**Classification** : Immediate (acute) health hazard

#### Composition/information on ingredients

Name	%	Classification
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Ammonium nitrate	>= 30 - < 35	F, AHF, AH
Calcium nitrate	>= 15 - < 20	F, AH, CHF, AH

**SARA 313****Form R - Reporting requirements**

Product name	CAS number	%
Ammonium nitrate	6484-52-2	>= 30 - < 35
Calcium nitrate	10124-37-5	>= 15 - < 20

**Supplier notification**

Product name	CAS number	%
Ammonium nitrate	6484-52-2	>= 30 - < 35
Calcium nitrate	10124-37-5	>= 15 - < 20

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

**State regulations**

- Massachusetts** : The following components are listed:  
Ammonium nitrate
- New York** : None of the components are listed.
- New Jersey** : The following components are listed:  
Ammonium nitrate  
Calcium nitrate
- Pennsylvania** : The following components are listed:  
Ammonium nitrate

**California Prop. 65**

**⚠ WARNING:** Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**Inventory list**

**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:** All components are listed or exempted.

**Taiwan Chemical Substances Inventory (TCSI):** All components are listed or exempted.

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

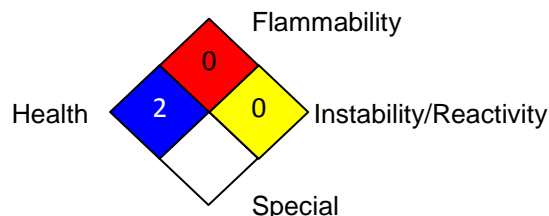
**EC INVENTORY (EINECS/ELINCS):** All components are listed or exempted.

**Canada:** All components are listed or exempted.

**Section 16. Other information**

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**National Fire Protection Association (U.S.A.)**

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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

**Procedure used to derive the classification**

Classification	Justification
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1	Calculation method

**History**

<b>Date of printing</b>	: 08/27/2018
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<b>Version</b>	: 1.1
<b>Prepared by</b>	: Yara Chemical Compliance (YCC).
<b>Key to abbreviations</b>	: ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor 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 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) UN = United Nations
<b>Key data sources</b>	: 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.  
Sphera Solutions Inc., 4777 Levy Street, St Laurent, Quebec  
HAR 2P9, Canada.

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

**Notice to reader**

**To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.**