



SAFETY DATA SHEET

PRODUCT NAME

ULTRASOL 3-15-28 HYDROPONIC PLUS

Product Code:

NC.231528_112_2.2_USA

Date of issue:

August 2019

1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier Ultrasol 3-15-28 Hydroponic PLUS

Recommended uses:

Fertilizer end-use, preparation of fertilizers mixtures.

Dry fertilizer for mixing with water for foliar and soil applications.

Restrictions on uses:

None

Manufacturer

SQM North America
2727 Paces Ferry Rd, Building Two, Suite 1425
Atlanta, GA 30339

Company Telephone/Fax

(770) 916 9400 / (770) 916 9404

Emergency Telephone Number

(800) 424 9300 (CHEMTREC)

2. HAZARDS IDENTIFICATION

Classification of the mixture

Classification of the chemical in accordance with 29CFR §1910.1200

Hazard classes and Hazard categories

Hazard statements

Toxic to reproduction cat. 1B

May damage fertility. May damage the unborn child.

Label elements

Hazard pictograms



Signal word

DANGER

Hazard Statements

May damage fertility. May damage the unborn child.

Precautionary Statements

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Wear protective gloves / protective clothing / eye protection.

IF exposed or concerned: Get medical advice/attention.

Store locked up

Dispose of contents/container according to local/state/federal regulations.

Other hazards

None

Classification of the relevant ingredients of the mixture in accordance with 29CFR §1910.1200

Hazard classes and Hazard categories

Boric acid

Toxic to reproduction, Cat. 1B

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product has to be considered as a mixture/preparation

Ingredients classified as health hazards

CAS No

EC No

Concentration

Boric acid

10043-35-3

233-139-2

0.1 - 5%

4. FIRST AID MEASURES

Description of first aid measures

General information

IF exposed or concerned: Get medical advice/attention.

Never give anything by mouth to an unconscious person or a person with cramps.

In case of inhalation

Remove to fresh air and keep at rest in a position comfortable for breathing.

Get medical attention for any breathing difficulty.



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In case of skin contact

Wash with plenty of water. If skin irritation occurs: Get medical advice/attention.

In case of eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

In case of ingestion

Rinse mouth and drink plenty of water. Call a POISON CENTER or doctor/physician if you feel unwell.

Most important symptoms and effects, both acute and delayed

The following symptoms may occur:

In case of inhalation	Irritation to respiratory tract Delayed lung effects after short term exposure to thermal degradation products.
In case of skin contact	May cause redness or irritation
In case of eye contact	May cause redness or irritation
In case of ingestion	Ingestion of large amounts may cause: gastrointestinal disturbances

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media: Use any suitable mean for extinguishing surrounding fire.

Unsuitable material: None, but attention should be paid to compatibility with chemicals surrounding.

Specific hazards arising from the chemical

Thermal decomposition can lead to the escape of toxic/corrosive gases and vapours.

Thermal decomposition products: Nitrous oxides (NO_x), nitrites, phosphorus oxides, ammonia and metallic oxides.

Protective equipment and precautions for firefighters

Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (self contained breathing apparatus (SCBA)).

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Provide adequate ventilation. Wear personal protection equipment (Section 8).

Environmental precautions

Do not allow to enter into surface water or drains. Ensure waste is collected and contained.

Methods and material for containment and cleaning up

Take up mechanically, placing in appropriate containers for disposal or recovery.

Unsuitable material for containment/taking up: None specified

Other information

None

7. HANDLING AND STORAGE

Precautions for Safe Handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid generation of dust. Provide adequate ventilation. Wear personal protective equipment. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Keep away from flammable, combustible, strong acids and reducing substances.

Conditions for safe storage, including any incompatibilities

Keep/store only in original container. Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Do not store together with: Flammable substance, reducing agents, strong acids, empty wood pallets.

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Perchlorate containing product - Special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate and Section 15 for more information regarding California State regulations.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Exposure Guidelines****Occupational exposure limits**

OSHA	PEL	Boric acid
	STEL/ceiling	Not Established
ACGIH (2012 TLVs® and BEIs®)		Not Established
	TWA	2 mg/m ³ (inhal. fraction)
	STEL/ceiling	6 mg/m ³ (inhal. fraction)

Engineering controls

Use exhaust ventilation to keep airborne concentrations below exposure limits.

Personal Protective Equipment

Eye/face protection

Chemical goggles required all the time.

Skin Protection

Nitrile rubber gloves, over 0.11 mm thickness, > 480 min breakthrough time, recommended. Overall.

Respiratory Protection

Wear respiratory protection, where airborne concentrations are expected to exceed exposure limits

General Hygiene Considerations

Avoid contact with eyes and skin. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product.

9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

Appearance	Solid, crystalline powder
Colour	Pale blue
Odour	Odourless
Odour Threshold	No applicable
pH value	No data available
Melting point / freezing range	No data available
Boiling temperature / boiling range	Not applicable
Flash point	Not applicable
Vapourisation rate / Evaporation rate	No data available
Flammable solids	Not flammable
Explosion limits (LEL, UEL)	Not applicable
Vapour pressure	No data available
Vapour density	No data available
Relative Density	No data available
Solubility	> 100 g/L at 20°C/68°F (water)
Partition coefficient n-octanol /water	Not applicable
Auto Ignition temperature (AIT)	Not applicable
Decomposition temperature	No data available
Viscosity	Not applicable
Explosive properties	Not explosive
Oxidising properties	Not oxidizer

Other information

None

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10. STABILITY AND REACTIVITY**Reactivity**

No hazardous reaction when handled and stored according to provisions.

Chemical stability

Stable under normal storage and temperature conditions.

Possibility of hazardous reactions

None identified

Conditions to avoid

Keep away from flammable, combustible, strong acids, and reducing materials. Keep away from empty wood pallets.

Incompatible materials

Flammable, combustible, strong acids and reducing substances under specific conditions. These incompatible materials shall not include approved packaging materials, pallets, or other dunnage (NFPA 400/2016, Hazardous Materials Code, item 15.3.5.2.1.1).

Hazardous decomposition products

Thermal decomposition products: Nitrous oxides (NOx), nitrites, phosphorus oxides, ammonia and metallic oxides.

11. TOXICOLOGICAL INFORMATION

The following information mostly refers to the major component of the product.

Likely routes of exposure (inhalation, ingestion, skin and eye contact)

Eye contact, skin contact and inhalation. Exposure by ingestion is not expected to occur through normal industrial or agricultural use.

Symptoms related to the physical, chemical and toxicological characteristics

May be irritant to the respiratory tract. May cause redness or irritation to the skin and eyes. Ingestion of large amounts may cause gastrointestinal disturbances. May cause delayed lung effects after short term exposure to thermal degradation products.

Information on toxicological effects from short and long term exposure

There is no data for the mixture itself.

Acute toxicity

Acute oral toxicity	LD50:	
Acute Toxicity Estimate for the mixture	> 2000 mg/kg bw	(additivity formula)

Acute dermal toxicity	LD50:	
Acute Toxicity Estimate for the mixture	>2000 mg/kg pc	(additivity formula)

Acute inhalation toxicity	LC50:	
Acute Toxicity Estimate for the mixture	Does not contain acutely toxic ingredients/impurities.	

Assessment / classification:	Based on available data for the ingredients of the mixture, the classification criteria are not met.	
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Irritant and corrosive effects

Irritation to the skin	Result	Method
Main ingredients	non-irritating to skin	Equivalent/similar to OECD guideline 404

Assessment / classification:	Based on available data for the ingredients of the mixture, the classification criteria are not met.	
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Irritation to eyes	Result	Method
Main ingredients	non-irritating to eyes	OECD Guideline 405

Assessment / classification:	Based on available data for the ingredients of the mixture, the classification criteria are not met.	
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Respiratory or skin sensitisation

Skin sensitization	Result	Method
Main ingredients	non-sensitizing.	OECD Guideline 429
Boric acid	not sensitizing.	OECD Guideline 406
Respiratory sensitisation	No information available.	
Assessment / classification:	Based on available data for the ingredients of the mixture, the classification criteria are not met.	

Genetic effects

The product does not contain ingredients classified as germ cell mutagens.

Main ingredients	Bacterial (Ames Test)	Chromosomal aberrations	Mutation in mammal. cells
Main ingredients	negative	negative	negative
Boric acid	negative	negative	negative
Assessment / classification:	Based on available data, the classification criteria are not met		

Reproductive toxicity

Adverse effects on sexual function and fertility/developmental toxicity

	OECD guideline 422.
Main ingredients	No adverse effects on fertility/development.
Boric acid fertility	NOAEL (male rats): 17.5 mg B/kg bw/day (Multigeneration study) Boron has been shown to adversely affect male reproduction in laboratory animals, however, male reproductive effects attributable to boron have not been demonstrated in studies of highly exposed workers.
developmental toxicity	Benchmark dose (BMDL05): 10.3 mg B/kg bw/day Developmental effects have been observed in laboratory animals. The critical effect is considered to be decreased fetal body weight in rats. There is no evidence of developmental effects in humans attributable to boron in studies of populations with high exposures to boron.
Assessment / classification:	Based on available data for ingredients of the mixture, this product is classified and labelled as Presumed human reproductive toxicant, Category 1B , in accordance with Appendix A to 29CFR section 1910.1200.

Specific target organ toxicity (single exposure)

The product does not contain relevant ingredients classified as Target Organ Toxicant after single exposure.

	Practical experience / human evidence
Main ingredients	No relevant effect have been observed after single exposure to the main ingredients. No reliable study supports the designation of boric acid as a respiratory
Assessment / classification:	Based on available data, the classification criteria are not met

Specific target organ toxicity (repeated exposure)

	Organs affected:	Effects
Main ingredients	None	
Boric acid	Testes	NOAEL (chronic, rat): 17.5 mg B/kg bw/day
A number of studies on boric acid or disodium tetraborate decahydrate in diet or via drinking water for periods of 30 days to two years in rats, mice and dogs are available. Most studies support that boron can cause adverse haematological effects and that the main target organ of boron toxicity is the testis.		
Assessment / classification:	Based on available data for ingredients of the mixture, this product is classified and labelled as Presumed human reproductive toxicant, Category 1B , in accordance with Appendix A to 29CFR section 1910.1200.	

Aspiration hazard

Physicochemical data and toxicological information does not indicate an aspiration hazard.

Assessment / classification:	Based on available data, the classification criteria are not met
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Carcinogenicity

International Agency for Research on Cancer (IARC)

No component of this product present at levels $\geq 0.1\%$ is identified as probable, possible or confirmed human carcinogen by IARC.

National Toxicology Program (NTP)

No component of this product present at levels $\geq 0.1\%$ is identified as known or anticipated carcinogen by NTP.

29 CFR part 1910, subpart Z

No component of this product present at levels $\geq 0.1\%$ is identified as carcinogen or potential carcinogen by OSHA.

California Proposition 65

No component of this product present at levels $\geq 0.1\%$ is identified as carcinogen by California Prop.65.

WHO (2003) Nitrate in drinking water

No association between nitrate exposure in humans and the risk of cancer

Assessment / classification:

Based on available data, the classification criteria is not met

Other Toxicological Information

This product contains trace amounts of naturally-occurring perchlorate and iodate. Like other goitrogenic substances, perchlorate may affect iodine uptake by thyroid under specific conditions.

12. ECOLOGICAL INFORMATION

There is no data for the mixture itself. The following information mostly refers to the major component of the product.

Ecotoxicity

Aquatic Toxicity

Toxicity estimate for the mixture (summation method)

96-h L(E)C50	>100 mg/L	Fish
24-h E(E)C50	>100 mg/L	<i>Daphnia magna</i> (fresh water flea).
72-h E(E)C50	> 100 mg/L	Algae

Assessment / classification

Based on available data, the classification criteria are not met

Persistence and degradability

The product contains mainly inorganic nitrate and phosphate salts. In aqueous solutions, these salts dissociate into their respective ions. Phosphate ions are finally incorporated into the Phosphorus cycle. Under anoxic conditions, denitrification occurs and nitrate is ultimately converted into molecular nitrogen as part of the Nitrogen cycle.

Bioaccumulative potential

Low potential for bioaccumulation based on physicochemical properties of main components.

Mobility in soil

The components of this mixture have a low potential for adsorption. Portion not taken up by plants, can leach to groundwater.

Other adverse effects

Excess nitrate leaching may enrich waters leading to eutrophication.

13. DISPOSAL CONSIDERATIONS

Disposal should be in accordance with applicable federal and state laws.

It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal method in compliance with applicable regulations.

This product is not listed as dangerous waste in the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

Perchlorate containing product - Special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate and Section 15 for more information regarding California State regulations.

14. TRANSPORTATION INFORMATION

US DOT (49CFR part 172)

UN-No.	Non dangerous good
UN Proper Shipping Name	Not applicable
Hazard class	Not applicable
Packing group	Not applicable
Hazard label(s)	Not applicable



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Special marking No

Special Provision No

International Maritime Organization (IMDG Code)

UN-No. Non dangerous good

UN Proper Shipping Name Not applicable

Hazard class Not applicable

Packing group Not applicable

Marine pollutant No

Hazard label(s) Not applicable

Special marking No

International Civil Aviation Organization (ICAO) and International Air Transport Association (IATA)

UN-No. Non dangerous good

UN Proper Shipping Name Not applicable

Hazard class Not applicable

Packing group Not applicable

Hazard label Not applicable

Special marking No

Special handling procedure

None

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

Other special precautions

None

15. REGULATORY INFORMATION

US Federal

SARA Title III Rules

Section 311/312 Hazard Classes

Acute Health Hazard No

Chronic Health Hazard Yes (Toxic to reproduction)

Fire Hazard No

Release of Pressure No

Reactive Hazard No

Section 313 Toxic Chemicals

N511 Nitrate compounds (water dissociable; reportable only when in aqueous solution)

Section 302 Extremely Hazardous Substances (EHS)/CERCLA Hazardous Substances

None ingredient is listed.

DHS - Chemical of Interest (Appendix A to 6CFR Part 27)

It contains potassium nitrate

NFPA 704/2017: National Fire Protection Association

Health 0

Fire 0

Reactivity 0

Special None

US State Regulations

California Proposition 65 None ingredient is listed.

California Code of Regulations Title 22 (Health & Safety Code), Chapter 33 See <http://www.dtsc.ca.gov/hazardouswaste/perchlorate/>



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Canada

WHMIS Classification:

Reproductive Toxicity, Category 1B.

This product has been classified according to the hazard criteria of the 2015 Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

Chemical Inventories

United States TSCA

All ingredients are listed

Canada DSL

All ingredients are listed

European Union (EINECS)

All ingredients are listed

Japan (METI)

All ingredients are listed

16. OTHER INFORMATION

This SDS complies with the US 29 CFR part 1910 subpart Z (2012), ANSI Standard Z400.1-2004 and Canadian 2015 Hazardous Products Regulations (HPR)

Data source

REACH Registration Dossiers for major components

Prepared by

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Date of issue:

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Supersedes

February 2016

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Indication of changes

Version 2.2 (August 2019) DNEL removed (Section 8)

Conditions to avoid and incompatible materials were updated, incompatible materials information updated (section 10)

NFPA 704 rule updated (section 15)

Version 2.1 (February 2016) All sections were revised and minor changes were made in section 2, 4, 7, 9).

Product code (document code) was changed.

Identification of ingredient classified as health hazards (section 3)

DNEL and toxicity values were adjusted referring to the mixture (section 8, 11, 12)

Regulatory information was updated (Section 15)

Version 2 (August 2013) All sections were reviewed and modified to comply with 29CFR part 1910 Subpart Z (20112)

Version 1 (September 2009) New document