



# Safety Data Sheet according to OSHA-GHS (29 CFR part 1910.1200 HCS 2012)

**PRODUCT NAME****AGRI-SOL 12-48-8 PERFECT POND PLUS**

Product Code:

NL.2124808AGRIPOND\_112\_01\_US

Date of issue:

August 2013

Supersedes: -

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product identifier** Agri-Sol 12-48-8 Perfect Pond 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**

Potassium nitrate

Oxidizing solid, Cat. 3

Boric acid

Toxic to reproduction, Cat. 1B

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is to be considered as a mixture/preparation

Substance name	CAS No	EC No	Concentration
Potassium nitrate	7757-79-1	231-818-8	5% - 50%
Boric acid	10043-35-3	233-139-2	< 3%
Perchlorate (ClO <sub>4</sub> <sup>-</sup> )			< 0.01%
Iodate (IO <sub>3</sub> <sup>-</sup> )			< 50 ppm

## 4. FIRST AID MEASURES

**Description of first aid measures****General information**

In case of persisting adverse effects consult a physician.

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



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**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.

**In case of skin contact**

Wash with plenty of soap and 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. Do not induce vomiting.  
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 (NOx), 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.



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**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.

Perchlorate containing product - Special handling may apply. See [www.dtsc.ca.gov/hazardouswaste/perchlorate](http://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**

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

**Derived No-Effect Level (DNEL) suggested by the manufacturer**

Workers (industrial/professional):	
Potassium nitrate	
DNEL Human, dermal, long term (repeated):	20.8 mg/kg/day (systemic)
DNEL Human, inhalation, long term (repeated):	36.7 mg/m <sup>3</sup> (systemic)
Boric acid	
DNEL Human, dermal, long term (repeated):	4800 mg B/day (systemic)

Derived No-Effect Level (DNEL) is the level of exposure to the substance above which humans should not be exposed.

**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, granular or crystalline powder
Colour	white to 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



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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
<b>Other information</b>	
None	

## 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**

None identified

**Incompatible materials**

None identified

**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)
Potassium nitrate	>2000 mg/kg bw	
Boric acid	3765 mg/kg bw	
Assessment / classification:	Based on available data for the ingredients of the mixture, the classification criteria are not met.	

**Irritant and corrosive effects**

Irritation to the skin	Result	Method
Potassium nitrate	non-irritant.	Equivalent/similar to OECD guideline 404
Boric acid	non-irritant.	Equivalent/similar to OECD guideline 404
Assessment / classification:	Based on available data, the classification criteria are not met	
Irritation to eyes	Result	Method
Potassium nitrate	Not-irritating	OECD Guideline 405
Boric acid	Not-irritating	Equivalent/similar to OECD guideline 405
Assessment / classification:	Based on available data, the classification criteria are not met	



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### Respiratory or skin sensitisation

Substance	Result	Method
Skin sensitization		
Potassium nitrate	not sensitizing.	OECD Guideline 429
Boric acid	not sensitizing.	OECD Guideline 406
Respiratory sensitisation	No information available.	
Assessment / classification:	Based on available data, the classification criteria are not met	

### Genetic effects

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

Substance	Bacterial (Ames Test)	Chromosomal aberrations	Mutation in mammalian cells
Potassium nitrate	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

Substance	OECD guideline 422.
Potassium nitrate	No adverse effects on fertility/development (NOAEL >1500 mg/kg bw).
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 <b>Presumed human reproductive toxicant, Category 1B</b> , 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.

Substance	Practical experience / human evidence
Potassium nitrate	No relevant effect have been observed after single exposure to potassium nitrate.
Boric acid	No relevant effect have been observed after single exposure to the substance. No reliable study supports the designation of boric acid as a respiratory irritant.
Assessment / classification:	Based on available data, the classification criteria are not met

### Specific target organ toxicity (repeated exposure)

Substance	Organs affected:	Effects	Guideline
Potassium nitrate	None	No effects (NOAEL >1500 mg/kg bw)	OECD 422
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 <b>Presumed human reproductive toxicant, Category 1B</b> , 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

Potassium nitrate

96-h LC50 1378 mg/L

*Poecilia reticulata* (freshwater fish)

24-h EC50 490 mg/L

*Daphnia magna* (fresh water flea).

10 d EC50 > 1700 mg/L

Several algae species

Boric acid

96-h LC50 74 - 725 mg B/L

Fish

48-h EC50 45 - 1376 mg B/L

Aquatic invertebrates

72-h EC50 40 mg B/L

Algae (*Pseudokirchneriella subcapitata*)

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](http://www.dtsc.ca.gov/hazardouswaste/perchlorate) and Section 15 for more information regarding California State regulations.



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**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
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.

## NFPA 704/2012: National Fire Protection Association

Health	1
Fire	0
Reactivity	0
Special	None





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**US State Regulations**

California Proposition 65

None ingredient is listed.

California Code of Regulations Title 22 (Health &amp; Safety Code), Chapter 33

See <http://www.dtsc.ca.gov/hazardouswaste/perchlorate/>**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 29 CFR part 1910 subpart Z (2012) and ANSI Standard Z400.1-2004

**Prepared by**

Regulatory Affairs Department, SQM

**E-mail**

product\_safety@sqm.com

spn-northamerica@sqm.com

**Preparation date**

August 2013

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**Indication of changes**

New