



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

PRODUCT NAME**PRIMERAONE 20-10-20 GREENHOUSE PLUS**

Product Code:

NL.2201020TURF_106_02_US

Date of issue:

February 2016

1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier PrimeraOne 20-10-20 Greenhouse 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

ManufacturerSQM 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

Oxidizing solid, Cat. 3

May intensify fire; oxidizer

Eye irritant, Cat. 2

Causes serious eye irritation

Label elements**Hazard pictograms****Signal word**

WARNING

Hazard StatementsMay intensify fire; oxidizer
Causes serious eye irritation**Precautionary Statements**

Keep away from heat. Keep/Store away from clothing/flammable/reducing/combustible materials.

Take any precaution to avoid mixing with flammable / combustible / reducing materials.

Wear protective gloves / protective clothing / eye protection.

Wash hands thoroughly after handling.

In case of fire: use any suitable mean for extinguishing surrounding fire. Spray water for small fires. For large fires flood with abundant water.

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 advice/attention.

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

Ammonium nitrate

Oxidizing solid, cat. 3; Eye irrit. cat. 2

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product has to be considered as a mixture/preparation

Substance name	CAS No	EC No	Concentration
Potassium nitrate	7757-79-1	231-818-8	25% - 70%
Ammonium nitrate	6484-52-2	229-347-8	10% - 60%
Perchlorate (ClO ₄ ⁻)			< 0.01%
Iodate (IO ₃ ⁻)			< 50 ppm



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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.

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 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	Causes serious eye 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. Spray water for small fires.
For large fires flood with abundant water.

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

Specific hazards arising from the chemical

Oxidizer. Contact with combustible materials will not cause spontaneous ignition, however, this product will enhance an existing fire.

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: Do not absorb in saw-dust or other combustible absorbents.

Other information

None



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7. HANDLING AND STORAGE

Precautions for Safe Handling

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, strong alkalis 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.

Do not store together with:

Flammable substance, reducing agents, strong acids, strong alkalis, empty wood pallets.

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**

	Potassium nitrate	Ammonium nitrate
OSHA PEL	Not Established	Not Established
STEL/ceiling	Not Established	Not Established
ACGIH (2012 TLVs® and BEIs®)		
TWA	Not Established	Not Established
STEL/ceiling	Not Established	Not Established

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

Workers (industrial/professional):

DNEL Human, dermal, long term (repeated):	20 mg/kg/day (systemic)
DNEL Human, inhalation, long term (repeated):	30 mg/m ³ (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 and protective clothes, recommended.

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



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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	Oxidizer
Other information	
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

Keep away from flammable, combustible, strong acids, strong alkalis and reducing materials.

Incompatible materials

Flammable, combustible and reducing substances under specific conditions.

Flammable, combustible, strong acids, strong alkalis and reducing substances under specific conditions. These incompatible materials shall not include approved packaging materials, pallets, or other dunnage (NFPA 430/2004, Code for the Storage of Liquid and Solid Oxidizers, item 4.4.3.1).

Hazardous decomposition products

Thermal decomposition products: Nitrous oxides (NO_x), 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. Causes serious eye irritation. May cause redness or irritation to the skin. 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: > 2000 mg/kg bw (additivity formula)

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

Acute dermal 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

	Result	Method
Irritation to the skin		
Potassium nitrate	non-irritant.	Equivalent/similar to OECD guideline 404
Ammonium nitrate	non-irritant.	Equivalent/similar to OECD guideline 404
Assessment / classification:	Based on available data for the ingredients of the mixture, the classification criteria are not met.	

	Result	Method
Irritation to eyes		
Potassium nitrate	Not-irritating	OECD Guideline 405
Ammonium nitrate	Irritating (cat. 2)	OECD Guideline 405
Assessment / classification:	Based on available data for ingredients of the mixture, this product is classified and labelled as Eye irritant, Cat. 2.	

Respiratory or skin sensitisation

	Result	Method
Skin sensitization		
Main ingredients	not sensitizing.	OECD Guideline 429
Ammonium nitrate	not sensitizing.	OECD Guideline 429
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.

	Bacterial (Ames Test)	Chromosomal aberrations	Mutation in mammalian cells
Main ingredients	negative	negative	negative
Assessment / classification:	Based on available data for the ingredients of the mixture, 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 (NOAEL >1500 mg/kg bw).
Assessment / classification:	Based on available data for the ingredients of the mixture, the classification criteria are not met.

Specific target organ toxicity (single exposure)

The product does not contain relevant ingredients classified as Target Organ Toxicant.
Practical experience / human evidence

Main ingredients	No relevant effect have been observed after single exposure to potassium nitrate.
Assessment / classification:	Based on available data for the ingredients of the mixture, the classification criteria are not met.

Specific target organ toxicity (repeated exposure)

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

	Organs affected:	Effects	Guideline
Main ingredients	None	No effects (NOAEL >1500 mg/kg bw)	OECD 422
Assessment / classification:	Based on available data for the ingredients of the mixture, the classification criteria are not met.		

Aspiration hazard

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

Assessment / classification:	Based on available data for the ingredients of the mixture, 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.



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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 for the ingredients of the mixture, the classification criteria are 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 for the ingredients of the mixture, 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.

Waste containing nitrates that exhibit the characteristic of ignitability has the EPA Hazardous Waste Number of D001 according to 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.	1477
UN Proper Shipping Name	NITRATES, INORGANIC, N.O.S.
Hazard class	5.1
Packing group	III
Hazard label(s)	5.1 (oxidizer)
Special marking	No
Special Provision	IB8; IP3; T1; TP33



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International Maritime Organization (IMDG Code)

UN-No. 1477
 UN Proper Shipping Name NITRATES, INORGANIC, N.O.S.
 Hazard class 5.1
 Packing group III
 Marine pollutant No
 Hazard label(s) 5.1 (oxidizer)
 Special marking No
 Special Provision 223

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

UN-No. 1477
 UN Proper Shipping Name NITRATES, INORGANIC, N.O.S.
 Hazard class 5.1
 Packing group III
 Hazard label 5.1 (oxidizer)
 Special marking No
 Special Provision 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	Yes (Eye irritation)
Chronic Health Hazard	No
Fire Hazard	Yes (Oxidizer)
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)

Potassium nitrate and ammonium nitrate are listed

NFPA 704/2012: National Fire Protection Association

Health	1
Fire	0
Reactivity	0
Special	OX

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/>**Canada**

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.



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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

Data source

REACH Registration Dossiers for major components

Prepared by

Regulatory Affairs Department, SQM

E-mail

product_safety@sqm.com

spn-northamerica@sqm.com

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Supersedes

December 2013

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Indication of changes

- Version 02 (February 2016) Hazard classification has been changed in accordance with the composition (section 2).
Composition has been changed (section 3). Boric acid was reduced to less than 0.1%.
Product code/document code has changed.
All sections were revised and updated in accordance with the new hazard classification.
DNEL and toxicity values were adjusted referring to the mixture (section 8, 11, 12).
Conditions to avoid and incompatible materials were updated (section 10).
Regulatory information was updated (Section 15).
Minor editorial changes.
- Version 01 (December 2013) New document