



# SAFETY DATA SHEET

**PRODUCT NAME**                      **SPEEDFOL PECAN SP**  
Product Code:                              NC.2SPFOLPEC\_175\_01\_US  
Date of issue:                                June 2016

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product identifier**    Speedfol Pecan SP  
**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
Oxidizing solid, Cat. 3	May intensify fire; oxidizer
Acute toxicity, oral, Cat. 4	Harmful if swallowed
Skin irritant, Cat. 2	Causes skin irritation
Irreversible eye effects, Cat. 1	Causes serious eye damage
Toxic to reproduction, cat. 1B	May damage fertility or the unborn child.

**Label elements**

**Hazard pictograms**



**Signal word**

**DANGER**

**Hazard Statements**

May intensify fire; oxidizer  
Harmful if swallowed  
Causes skin irritation  
Causes serious eye damage  
May damage fertility or the unborn child.

**Precautionary Statements**

Keep away from heat. Keep/Store away from clothing/flammable/reducing/combustible materials.  
Take any precaution to avoid mixing with flammable/reducing/combustible materials.  
Wash hands thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Wear protective gloves / protective clothing / eye protection / face protection.  
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.  
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 SWALLOWED: Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.  
IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse.  
If skin irritation occurs: Get medical advice / attention.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.  
IF exposed or concerned: Get medical advice/attention.  
Store locked up  
Dispose of contents/container according to local/state/federal regulations.

**Other hazards**

Environmentally hazardous substances (aquatic environment) Chronic 2 in accordance with IMDG Code.



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

Potassium nitrate	Oxidizing solid, Cat. 3
Zinc Sulphate	Acute Toxicity Cat. 4 oral; Serious eye damage, Cat. 1; Environmentally hazardous substances (aquatic environment) Acute 1, Chronic 1 (in accordance with IMDG Code).
Urea phosphate	Skin Corrosive Cat. 1B
Boric acid	Toxic to reproduction, Cat. 1B

## 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	60% - 80%
Zinc Sulphate	7446-19-7	616-096-8	15% - 30%
Boric acid	10043-35-3	233-139-2	1% - 10%
Urea phosphate	4861-19-2	225-464-3	1% - 5%
Perchlorate ( $\text{ClO}_4^-$ )			< 0.01%
Iodate ( $\text{IO}_3^-$ )			< 50 ppm

## 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.

#### In case of skin contact

Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse.

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.

Immediately call a POISON CENTER or doctor/physician.

#### 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	Causes skin irritation
In case of eye contact	Causes serious eye damage
In case of ingestion	Harmful if swallowed. 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.



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Thermal decomposition can lead to the escape of toxic/corrosive gases and vapours.  
 Thermal decomposition products: Nitrous oxides (NOx), nitrites, phosphorus oxides, sulfur oxides 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

This product is environmentally hazardous (aquatic environment). 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

## 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, strong alkalis, empty wood pallets.

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



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## 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 <sup>3</sup> (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	Tightly sealed safety goggles. Face protection if direct exposure occurs.
Skin Protection	Nitrile rubber gloves, over 0.11 mm thickness, > 480 min breakthrough time. 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. Have eye-wash facilities immediately available. 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	White
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	Not applicable
Vapour density	Not applicable
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 and reducing materials.



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### 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 430/2004, Code for the Storage of Liquid and Solid Oxidizers, item 4.4.3.1).

### Hazardous decomposition products

Thermal decomposition products: Nitrous oxides (NOx), nitrites, phosphorus oxides, sulfur oxides 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 damage. Causes skin irritation. Harmful if swallowed. 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	1500 - 1950 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, this product is classified and labelled as **Acute Tox. Oral cat. 4**, in accordance with Appendix A to 29CFR section 1910.1200.

#### Irritant and corrosive effects

Irritation to the skin	Result	Method
Potassium nitrate	non-irritant.	Equivalent/similar to OECD guideline 404
Zinc Sulphate	non-irritant.	
Boric acid	non-irritant.	Equivalent/similar to OECD guideline 404
Urea phosphate	Corrosive (Cat. 1B, PKG II)	Skin irritation <i>in vitro</i> , OECD Guideline 435

Assessment / classification:

Based on available data for ingredients of the mixture, this product is classified and labelled as **Skin irritant, cat. 2**, in accordance with Appendix A to 29CFR section 1910.1200.

Irritation to eyes	Result	Method
Potassium nitrate	Not-irritating	OECD Guideline 405
Zinc Sulphate	Irreversible effects (cat.1)	
Boric acid	Not-irritating	Equivalent/similar to OECD guideline 405
Urea phosphate	Irreversible effects (cat.1)	Skin irritation <i>in vitro</i> , OECD Guideline 435

Assessment / classification:

Based on available data for ingredients of the mixture, this product is classified and labelled as **cat. 1, irreversible eye effects**, in accordance with Appendix A to 29CFR section 1910.1200.

#### Respiratory or skin sensitisation

Skin sensitization	Result	
Main ingredients	not sensitizing.	
Urea phosphate	No information available.	Urea phosphate is classified as corrosive, thus, no information on skin sensitization is deemed necessary.

Respiratory sensitisation

No information available.



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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) negative	Chromosomal aberrations negative	Mutation in mammal. cells negative
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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.

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 irritant.

Assessment / classification:

Based on available data for the ingredients of the mixture, the classification criteria are not met.

### Specific target organ toxicity (repeated exposure)

Main ingredients	Organs affected:	Effects
Boric acid	None	No effects
	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.

### 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.



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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

Zinc sulfate

96-h LC50	2.4 mg/L	Fish
48-h EC50	0.56 mg/L	<i>Daphnia</i> (fresh water flea).

#### Chronic toxicity

Zinc sulfate

The product contains zinc sulfate, that is very toxic to aquatic life with long lasting effects.

Assessment / classification    Based on available data for the ingredients of the mixture, the classification criteria in accordance with 29CFR section 1910.1200 are not met. The product is classified as **Environmentally hazardous substances (aquatic environment)** in accordance with IMDG Code.

#### Persistence and degradability

The product contains mainly inorganic nitrate, sulfate 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

The product contains zinc that is bioaccumulable (BCF: 59 min, 242 max). The other components have low potential for bioaccumulation based on their physicochemical properties.

#### 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](http://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.	1486
UN Proper Shipping Name	POTASSIUM NITRATE MIXTURE
Hazard class	5.1
Packing group	III
Hazard label(s)	5.1 (oxidizer)
Marine pollutant	No
Special marking	No
Special Provision	A1; A29; B120; IB8; IP3; T1; TP33; W1



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## International Maritime Organization (IMDG Code)

UN-No.                                      1486  
UN Proper Shipping Name              POTASSIUM NITRATE MIXTURE  
Hazard class                              5.1  
Packing group                            III  
Marine pollutant                        No  
Hazard label(s)                         5.1 (oxidizer)  
Special marking                         Fish and tree symbol  
Special Provision                        964; 967

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

UN-No.                                      1486  
UN Proper Shipping Name              POTASSIUM NITRATE  
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

Zinc sulfate listed as "Hazardous substances other than radionuclides", RQ: 1000 lb (454 kg) in the appendix A to 49CFR 172.101 of US-DOT.

## 15. REGULATORY INFORMATION

### US Federal

#### SARA Title III Rules

##### Section 311/312 Hazard Classes

Acute Health Hazard	Yes (Acute oral toxicity, eye damage, skin irritant)
Chronic Health Hazard	Yes (Toxic to reproduction)
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 is listed.

#### DOT - Appendix A to §172.101—List of Hazardous Substances and Reportable Quantities

Zinc sulfate listed as "HAZARDOUS SUBSTANCES OTHER THAN RADIONUCLIDES", RQ: 1000 lb (454 kg)

#### NFPA 704/2012: National Fire Protection Association

Health	2
Fire	0
Reactivity	0
Special	OX

### US State Regulations

#### California Proposition 65

No 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





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contains all the information required by the HPR.

**Chemical Inventories**

United States TSCA

All ingredients are listed

Canada DSL/NDL

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), Hazardous Products Regulations (HPR, 2015) and ANSI Standard Z400.1-2004

**Data source**

REACH Registration Dossiers for major components

Zinc sulfate Loli database and supplier information.

**Prepared by**

Regulatory Affairs Department, SQM

**E-mail**

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**Date of issue:**

June 2016

**Supersedes**

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**Indication of changes**

Version 1 (June 2016) New document