Date : 02/15/2012
Version : 2

Material Safety Data Sheet

CONCENTRATED SELENIUM PREMIX (0.45%-10% Se)

PRINCE AGRI PRODUCTS, INC.
Advancing Nutrition for Healthy Animals©

1. Product and company identification

Product name : CONCENTRATED SELENIUM PREMIX (0.45%-10% Se)

Material uses : Animal feed additive.

MSDS ID # : PAHC1057

Supplier/Manufacturer : Prince Agri Products, Inc
229 Radio Road
Quincy, IL 62305
Tel: 217-222-8854
Fax: 217-222-5098
Toll free: 800-677-4623
Email: prince@princeagri.com

MSDS authored by : KMK Regulatory Services Inc.

In case of emergency : CHEMTREC, U.S. : 1-800-424-9300 International: +1-703-527-3887 **(CCN17876)**

2. Hazards identification

Emergency overview

Physical state : Solid. [Fine granular powder.]

Color : Off-white, red or yellow mixtures of minerals.

Odor : Not available.

Signal word : WARNING!

Hazard statements : HARMFUL IF INHALED OR SWALLOWED. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. CANCER HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE CANCER.

Precautionary measures : Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Do not ingest. Use only with adequate ventilation. Do not eat, drink or smoke when using this product. Keep container closed. Use personal protective equipment as required. Wash thoroughly after handling.

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

Routes of entry : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Inhalation : Toxic by inhalation.

Ingestion : Toxic if swallowed.

Skin : No known significant effects or critical hazards.

Eyes : No known significant effects or critical hazards.

Potential chronic health effects

Chronic effects : Contains material that may cause target organ damage, based on animal data.

Carcinogenicity : Contains material which can cause cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

2. Hazards identification

Target organs : Contains material which may cause damage to the following organs: blood, kidneys, lungs, the nervous system, liver, spleen, upper respiratory tract, skin, eye, lens or cornea, testes.

Over-exposure signs/symptoms

Inhalation : No specific data.

Ingestion : No specific data.

Skin : No specific data.

Eyes : No specific data.

Medical conditions aggravated by over-exposure : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (Section 11)

3. Composition/information on ingredients

Name	CAS number	%
Limestone	1317-65-3	60 - 100
Selenium	7782-49-2	0.45-10
Quartz	14808-60-7	1 - 5

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.

4. First aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 20 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin contact : In case of contact, immediately flush skin with plenty of water for at least 20 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

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.

Notes to physician : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5. Fire-fighting measures

Flammability of the product : No specific fire or explosion hazard.

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : 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.

5. Fire-fighting measures

Hazardous thermal decomposition products : Decompose to form Selenium, Selenium Oxides. Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

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.

6. Accidental release measures

Personal precautions : 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. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

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 for cleaning up

Spill : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7. Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). 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. Avoid exposure - obtain special instructions before use. Do not get in eyes or on skin or clothing. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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.

Storage : Store in accordance with local regulations. 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. 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.

8. Exposure controls/personal protection

Ingredient	Exposure limits
Limestone	**NIOSH REL (United States, 6/2009).** TWA: 5 mg/m³ 10 hour(s). Form: Respirable fraction TWA: 10 mg/m³ 10 hour(s). Form: Total **OSHA PEL (United States, 6/2010).** TWA: 5 mg/m³ 8 hour(s). Form: Respirable fraction TWA: 15 mg/m³ 8 hour(s). Form: Total dust
Selenium	**ACGIH TLV (United States, 2/2010).** TWA: 0.2 mg/m³, (as Se) 8 hour(s). **NIOSH REL (United States, 6/2009).** TWA: 0.2 mg/m³, (as Se) 10 hour(s).
Quartz	**NIOSH REL (United States, 6/2009).** TWA: 0.05 mg/m³ 10 hour(s). Form: Respirable dust **ACGIH TLV (United States, 2/2010).**

8. Exposure controls/personal protection

	TWA: 0.025 mg/m³ 8 hour(s). Form: Respirable fraction

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering measures : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Respiratory : Use a properly fitted, air-purifying or supplied air 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.

Hands : 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.

Eyes : 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 or dusts.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

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.

9. Physical and chemical properties

Physical state : Solid. [Fine granular powder.]

Flash point : [Product does not sustain combustion.]

Color : Off-white, red or yellow mixtures of minerals.

Solubility : Sodium Selenite is highly water soluble.

10. Stability and reactivity

Chemical stability : The product is stable.

Conditions to avoid : Avoid water, moisture or extreme heat.

Incompatible materials : Reactive or incompatible with the following materials: oxidizing materials, reducing materials, acids and moisture.

Hazardous decomposition products : Decomposition products may include the following materials: selenium, selenium oxides.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

11. Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Selenium	LD50 Oral	Rat	6700 mg/kg	-

Chronic toxicity

There is no data available.

Irritation/Corrosion

Skin : There is no data available.

Eyes : There is no data available.

Respiratory : There is no data available.

Sensitizer

Skin : There is no data available.

Respiratory : There is no data available.

Carcinogenicity

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Selenium Quartz	- A2	3 2A	- -	- +	- Proven.	- -

Mutagenicity

There is no data available.

Teratogenicity

There is no data available.

Reproductive toxicity

There is no data available.

12. Ecological information

Ecotoxicity : No known significant effects or critical hazards.

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
Selenium	Acute EC50 7930 ug/L Marine water Acute EC50 99000 ug/L Fresh water Acute EC50 2400 ug/L Fresh water Acute LC50 940 ug/L Fresh water Acute LC50 430 to 570 ug/L Fresh water Acute LC50 1000 to 1200 ug/L Fresh water Chronic NOEC 85 ug/L Fresh water Chronic NOEC 330 to 640 ug/L Fresh water	Algae - Skeletonema costatum Algae - Pseudokirchneriella subcapitata - Exponential growth phase Aquatic plants - Lemna minor Crustaceans - Hyalella azteca - Adult Daphnia - Daphnia magna - <=24 hours Fish - Pimephales promelas - Fry - 25 to 35 days - 17 mm - 0.03 g Daphnia - Daphnia magna - <24 hours Fish - Lepomis macrochirus - Juvenile (Fledgling, Hatchling, Weanling) - 5 months - 0.3 g	96 hours 3 days 4 days 48 hours 48 hours 96 hours 21 days 60 days

Persistence/degradability

There is no data available.

Other adverse effects : No known significant effects or critical hazards.

13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. 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 empty 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.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	UN3288	TOXIC SOLID, INORGANIC, N.O.S.	6.1	II		-
IMDG Class	UN3288	TOXIC SOLID, INORGANIC, N.O.S.	6.1	II		-
IATA-DGR Class	UN3288	TOXIC SOLID, INORGANIC, N.O.S.	6.1	II		-

PG* : Packing group Exemption to the above classification may apply. **AERG** : 151

15. Regulatory information

HCS Classification : Toxic material
Carcinogen
Target organ effects

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

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

SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: Limestone; Selenium; Quartz
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Limestone: Immediate (acute) health hazard; Selenium: Immediate (acute) health hazard, Delayed (chronic) health hazard; Quartz: Immediate (acute) health hazard, Delayed (chronic) health hazard

Clean Water Act (CWA) 307: Selenium

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

Clean Air Act Section 602 Class I Substances : Not listed

15. Regulatory information

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 313

	Product name	CAS number	Concentration
Form R - Reporting requirements	Selenium	7782-49-2	0.45-10
Supplier notification	Selenium	7782-49-2	0.45-10

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

State regulations

Massachusetts : The following components are listed: Limestone; Selenium; Quartz

New York : The following components are listed: Selenium

New Jersey : The following components are listed: Limestone; Selenium; Quartz

Pennsylvania : The following components are listed: Limestone; Selenium; Quartz

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Quartz	Yes.	No.	No.	No.

16. Other information

Label requirements : HARMFUL IF INHALED OR SWALLOWED. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. CANCER HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE CANCER.

Hazardous Material Information System (U.S.A.) : **Health :** 2 * **Flammability :** 0 **Physical hazards :** 0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) : **Health :** 2 **Flammability :** 0 **Instability :** 0

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History

Date of issue mm/dd/yyy : 02/15/2012

16. Other information

Date of previous issue : 09/15/2010

Version : 2

Revised Section(s) : 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16

Notice to reader

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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.