

Syngenta Crop Protection, LLC
Post Office Box 18300
Greensboro, NC 27419

In Case of Emergency, Call
1-800-888-8372

1. PRODUCT IDENTIFICATION

| | | | |
|-----------------------------|--|----------------------------|-------------------------|
| Product Name: | GRAMOXONE INTEON | Product No.: | A7813K |
| EPA Signal Word: | Danger-Poison | | |
| Active Ingredient(%): | Paraquat Dichloride (30.1%) | CAS No.: | 1910-42-5 |
| Chemical Name: | (1,1'-dimethyl-4,4'-bipyridinium dichloride) | | |
| Chemical Class: | Herbicide | | |
| EPA Registration Number(s): | 100-1217 | Section(s) Revised: | 3, 7, 10, 13, 15 |

2. HAZARDS IDENTIFICATION
Health and Environmental

Fatal if inhaled. May be fatal if swallowed. Harmful in contact with skin. Causes eye and skin irritation.

Hazardous Decomposition Products

Combustion products of dry material: Carbon dioxide, carbon monoxide, chlorine, hydrogen chloride, possible trace amounts of phosgene, nitrogen oxides, ammonia, and other toxic and noxious fumes.

Physical Properties

Appearance: Bluish green to dark green liquid

Odor: Characteristic; strong

Unusual Fire, Explosion and Reactivity Hazards

Hydrolyzes in alkaline media. This product reacts with aluminum to produce hydrogen gas. Do not mix or store in containers or systems made of aluminum or having aluminum fittings.

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Material | OSHA PEL | ACGIH TLV | Other | NTP/IARC/OSHA Carcinogen |
|-----------------------------|---|---|--|-----------------------------|
| Paraquat Emetic (0.13%) | Not Established | Not Established | 0.02 mg/m ³ TWA *** | No |
| Paraquat Dichloride (30.1%) | 0.5 mg/m ³ TWA (respirable; skin; as paraquat) | 0.1 mg/m ³ TWA (respirable); 0.5 mg/m ³ TWA (total) | 0.1 mg/m ³ TWA (respirable); 0.5 mg/m ³ TWA (total) *** | No |

*** Syngenta Occupational Exposure Limit (OEL)

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.
 Syngenta Hazard Category: E, S

4. FIRST AID MEASURES

Have the product container, label or Material Safety Data Sheet with you when calling Syngenta (800-888-8372), a poison

control center or doctor, or going for treatment.

- Ingestion:** SPEED IS ESSENTIAL. Immediate medical attention is required. If available, give an adsorbent such as activated charcoal, bentonite or Fuller's Earth.
Call a poison control center or doctor immediately for treatment advice.
Do not give anything by mouth to an unconscious person.
- Eye Contact:** If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.
- Skin Contact:** If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.
- Inhalation:** Move person to fresh air.
The odor of this product is from the stenching agent, which has been added, not from the paraquat.
If person is not breathing, call 911 or an ambulance.
Call a poison control center or doctor for further treatment advice.

Notes to Physician

Refer to the booklet 'Paraquat Poisoning. A Practical Guide to Diagnosis, First Aid and Hospital Treatment' (<http://www.syngenta.com/pqmedguide/>). Administer either activated charcoal (100 g for adults or 2 g/kg body weight in children) or Fuller's Earth (15% solution; 1 liter for adults or 15 ml/kg body weight in children). NOTE: The use of gastric lavage without administration of an adsorbent has not shown any clinical benefit. Do not use supplemental oxygen. Eye splashes from concentrated material should be treated by an eye specialist after initial treatment. With the possibility of late onset corneal ulceration, it is advised that patients with paraquat eye injuries are reviewed by an eye specialist the day after first presentation. Use treatment that is appropriate for chemical burns. Intact skin is an effective barrier to paraquat, however, contact with irritated or cut skin or repeated contact with intact skin may result in poisoning.

Medical Condition Likely to be Aggravated by Exposure

None known.

5. FIRE FIGHTING MEASURES

Fire and Explosion

| | | |
|------------------------------|-----------------------|-----------------------|
| Flash Point (Test Method): | Not Available | |
| Flammable Limits (% in Air): | Lower: Not Applicable | Upper: Not Applicable |
| Autoignition Temperature: | Not Available | |
| Flammability: | Does not flash | |

Unusual Fire, Explosion and Reactivity Hazards

Hydrolyzes in alkaline media. This product reacts with aluminum to produce hydrogen gas. Do not mix or store in containers or systems made of aluminum or having aluminum fittings.

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

In Case of Fire

Use dry chemical, foam or CO2 extinguishing media. Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area, and equipment until decontaminated. Water runoff can cause environmental damage. If water is used to fight fire, dike and collect runoff.

6. ACCIDENTAL RELEASE MEASURES

In Case of Spill or Leak

Untreated spilled material can dry to a highly irritating dust.

Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outlined in Section 8. Cover entire spill with absorbing material and place into compatible disposal container. Scrub area with hard water detergent (e.g. commercial products such as Tide, Joy, Spic and Span). Pick up wash liquid with additional absorbent and place into compatible disposal container. Once all material is cleaned up and placed in a disposal container, seal container and arrange

for disposition.

7. HANDLING AND STORAGE

This product may freeze at approximately 0°F, but upon warming will thaw out to fully homogeneous product.

Store the material in a well-ventilated, secure area out of reach of children and domestic animals. Do not store food, beverages or tobacco products in the storage area. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION AND PACKAGING OF THIS PRODUCT.

FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

- Ingestion: Store the material in a well-ventilated area out of the reach of children and domestic animals. Do not store food, beverages, or tobacco products in the storage area. Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Always wash thoroughly after handling.
- Eye Contact: Where eye contact is likely, use chemical splash goggles.
- Skin Contact: This product is FIFRA regulated. Refer to product labeling for end-user personal protection requirements. When handling or when exposure to concentrate is possible, wear: long-sleeved shirt and long pants, waterproof gloves, shoes and socks, face shield and chemical-resistant apron. Remove any contaminated clothing promptly. Syngenta conducted ASTM permeation tests using PVC gloves (0.2mm thickness) which showed no breakthrough of the product after eight hours of testing.
- Inhalation: A respirator is not normally required when handling this substance. Use effective engineering controls to comply with occupational exposure limits.

In case of emergency spills, use a NIOSH approved respirator with any N, R, P or HE filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance: Bluish green to dark green liquid
- Odor: Characteristic; strong
- Melting Point: Not Applicable
- Boiling Point: Not Available
- Specific Gravity/Density: 1.1223 g/cm³ @ 68°F (20°C)
- pH: 4 - 8 (10 g/l in deionized water)

Solubility in H₂O

Paraquat Dichloride: 620 g/l @ 68°F (20°C)

Vapor Pressure

Paraquat Dichloride: 7.5 x 10⁽⁻⁸⁾ mmHg @ 77°F (25°C)

10. STABILITY AND REACTIVITY

- Stability: Stable under normal use and storage conditions.
- Hazardous Polymerization: Will not occur.
- Conditions to Avoid: Store above 0°F.
Stable in acidic and neutral solution. Decomposed by alkali and in the presence of U.V. light. Compound inactivated by adsorption onto inert clay.
- Materials to Avoid: Hydrolyzes in alkaline media. This product reacts with aluminum to produce hydrogen gas. Do not mix or store in containers or systems made of aluminum or having aluminum fittings.
- Hazardous Decomposition Products: Combustion products of dry material: Carbon dioxide, carbon monoxide, chlorine,

hydrogen chloride, possible trace amounts of phosgene, nitrogen oxides, ammonia, and other toxic and noxious fumes.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity/Irritation Studies (Finished Product)

| | | |
|---------------------|--------------------------------|--|
| Ingestion: | Oral (LD50 Female Rat) : | 310 mg/kg body weight |
| Dermal: | Dermal (LD50 Rat) : | > 2000 mg/kg body weight |
| Inhalation: | Inhalation (LC50 Rat) : | 0.0006 mg/l air - 4 hours (data based on similar formulation[s]) |
| Eye Contact: | Mildly Irritating (Rabbit) | |
| Skin Contact: | Moderately Irritating (Rabbit) | |
| Skin Sensitization: | Not a Sensitizer (Guinea Pig) | |

Reproductive/Developmental Effects

Paraquat Dichloride: A 3-generation reproduction study showed no evidence of fertility or reproductive effects at doses below that causing maternal toxicity. Reproductive NOEL was above 7.5 mg/kg/day, the highest dose level.

Chronic/Subchronic Toxicity Studies

Paraquat Dichloride: Rodent studies showed signs of irritation in 21-day dermal studies. In a 2.5 year chronic study, rats showed evidence of cataracts, body weight reduction and lung effects (alveolar macrophage infiltration) at 75 ppm and above. A 90-day dog diet study showed evidence of lung effects leading to alveolar collapse and death at 3 mg/kg/day. Chronic pneumonitis was seen in a 1-year dog study at 0.93 mg/kg/day and above.

Carcinogenicity

Paraquat Dichloride: No evidence in the rat or mouse.

Other Toxicity Information

None

Toxicity of Other Components

Paraquat Emetic (0.13%)

Toxic if swallowed. Slightly irritating to skin and eyes. Inhalation of dust may cause nausea and vomiting.

Target Organs

Active Ingredients

Paraquat Dichloride: Lung, kidney

Inert Ingredients

Paraquat Emetic: Skin, eye, respiratory system

12. ECOLOGICAL INFORMATION

Ecotoxicity Effects

Paraquat Dichloride:

Fish (Bluegill Sunfish) 96-hour LC50 13 ppm

Invertebrate (Water Flea) Daphnia Magna 48-hour EC50 1.2 ppm

Bird (Bobwhite Quail) 8-day LD50 176 mg/kg

Green Algae 4-day EC50 0.32 ppm

Environmental Fate

Paraquat Dichloride:

The information presented here is for the active ingredient, paraquat dichloride.

Low bioaccumulation potential. Persistent in soil. Not persistent in water. Immobile in soil. Sinks in water (after 24 h).

13. DISPOSAL CONSIDERATIONS

Disposal

Do not reuse product containers. Dispose of product containers, waste containers, and residues according to local, state, and federal health and environmental regulations.

Characteristic Waste: Not Applicable

Listed Waste: Not listed

14. TRANSPORT INFORMATION

DOT Classification

Ground Transport - NAFTA

Proper Shipping Name: Corrosive Liquid, N.O.S. (Paraquat)

Hazard Class: Class 8

Identification Number: UN 1760

Packing Group: PG III

Comments

Water Transport - International

Proper Shipping Name: Corrosive Liquid, N.O.S. (Paraquat), Marine Pollutant

Hazard Class: Class 8

Identification Number: UN 1760

Packing Group: PG III

Air Transport

Proper Shipping Name: Corrosive Liquid, N.O.S. (Paraquat)

Hazard Class: Class 8

Identification Number: UN 1760

Packing Group: PG III

15. REGULATORY INFORMATION

EPCRA SARA Title III Classification

Section 311/312 Hazard Classes: Acute Health Hazard
Chronic Health Hazard

Section 313 Toxic Chemicals: Paraquat Dichloride (30.1%) (CAS No. 1910-42-5)

California Proposition 65

Not Applicable

CERCLA/SARA 304 Reportable Quantity (RQ)

Report product spills > 5 gal. (based on paraquat dichloride [RQ = 10 lbs.] content in the formulation) (SARA 304)

RCRA Hazardous Waste Classification (40 CFR 261)

Not Applicable

TSCA Status

Exempt from TSCA, subject to FIFRA

16. OTHER INFORMATION

NFPA Hazard Ratings

Health: 4
Flammability: 0
Instability: 0

HMIS Hazard Ratings

Health: 3
Flammability: 0
Reactivity: 0

| | |
|---|----------|
| 0 | Minimal |
| 1 | Slight |
| 2 | Moderate |
| 3 | Serious |
| 4 | Extreme |

For non-emergency questions about this product call:

1-800-334-9481

Original Issued Date: 2/18/2005

Revision Date: 11/9/2011

Replaces: 8/30/2011

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein.

End of MSDS