

Syngenta Crop Protection, Inc.
Post Office Box 18300
Greensboro, NC 27419

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

1. PRODUCT IDENTIFICATION

Product Name: **GRAMOXONE EXTRA** Product No.: A12870A
 EPA Signal Word: Danger-Poison
 Active Ingredient(%): Paraquat dichloride (37.00%) CAS No.: 1910-42-5
 Chemical Name: (1,1'-dimethyl-4,4'-bipyridinium dichloride)
 Chemical Class: Herbicide
 EPA Registration Number(s): 100-1043 (formerly 10182-280) **Section(s) Revised: 1, 14**

2. COMPOSITION/INFORMATION ON INGREDIENTS

Material	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA Carcinogen
Paraquat emetic technical	Not Established	Not Established	0.02 mg/m ³ TWA*	No
Paraquat dichloride (37.00%)	0.5 mg/m ³ TWA (respirable; skin; as paraquat)	0.1 mg/m ³ TWA (resp); 0.5 mg/m ³ TWA (total)	0.1 mg/m ³ TWA (respirable dust); 0.5 mg/m ³ TWA (total dust)*	No

* recommended by manufacturer

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

3. HAZARDS IDENTIFICATION
Symptoms of Acute Exposure

Irritant (skin with prolonged contact), irritant (eye, respiratory passages), inhalation (TLV), toxic (oral). May be fatal if swallowed. Harmful if absorbed through skin. Causes substantial but temporary eye injury.

Hazardous Decomposition Products

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

Physical Properties

Appearance: Dark green liquid
 Odor: Strong; pungent; obnoxious

Unusual Fire, Explosion and Reactivity Hazards

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

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: **PROMPT TREATMENT IS ESSENTIAL AND MUST BE INITIATED IMMEDIATELY BEFORE SIGNS AND SYMPTOMS APPEAR. CALL 1-800-888-8372 AT ANY HOUR FOR MEDICAL ADVICE.**
 Immediately induce vomiting by touching back of throat with finger. Give one or more glasses of water to drink and induce further vomiting. Repeat until vomit is clear. If person is unconscious do not give

anything by mouth and do not induce vomiting. GET IMMEDIATE MEDICAL ATTENTION. Take container and labeling with you.

- 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: If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call Syngenta (800-888-8372), a poison control center or doctor for further treatment advice. Inhalation is an unlikely route of exposure due to low vapor pressure and large spray droplet size, but mucosal irritation or nose bleeds may occur. The odor of this product is NOT paraquat; it is an added odorant intended to deter ingestion of this product.

Notes to Physician

There is no specific antidote if this product is ingested.

PROMPT TREATMENT IS ESSENTIAL AND MUST BE INITIATED IMMEDIATELY BEFORE SIGNS AND SYMPTOMS APPEAR. CALL 1-800-888-8372 AT ANY HOUR TO OBTAIN TOXICOLOGY AND MEDICAL MANAGEMENT CONSULTATION AND PARAQUAT ANALYSES. Symptoms are prolonged and painful and may be delayed for days after swallowing. Treatment may include binding paraquat in the gut with suspensions of clay or charcoal; and removal of paraquat from the blood by prolonged charcoal hemodialysis. Do NOT administer oxygen; oxygen potentiates the toxicity of paraquat. Probable mucosal damage may contraindicate the use of gastric lavage.

Medical Condition Likely to be Aggravated by Exposure

None known.

5. FIRE FIGHTING MEASURES

Fire and Explosion

Flash Point (Test Method):	>194°F	
Flammable Limits (% in Air):	Lower: % Not Applicable	Upper: % Not Applicable
Autoignition Temperature:	>1157 °F	
Flammability:	Combustible liquid	

Unusual Fire, Explosion and Reactivity Hazards

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

In Case of Fire

Technical aqueous solutions present no ignition hazards. The pure material may support combustion. Keep fire-exposed containers cool by spraying with water. For small fires, use foam, carbon dioxide or dry powder extinguishant. For large fires use foam or water-fog; avoid use of water jet. Contain run-off water with, for example, temporary earth barriers. A self-contained breathing apparatus and suitable protective clothing must be worn in fire conditions. We assigned NFPA and HMIS ratings to this product based on the hazards of its ingredient(s). Because the customer is most aware of the application of the product, he must ensure that the proper personal protective equipment (PPE) is provided consistent with information contained in the product MSDS.

6. ACCIDENTAL RELEASE MEASURES

In Case of Spill or Leak

Control the spill at its source. Contain the spill to prevent it from spreading, contaminating soil, or entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outlined in Section 8. If a solid, sweep up material and place in a compatible disposal container. If a liquid, 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.

Untreated spilled material can dry to a highly irritating dust.

7. HANDLING AND STORAGE

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 THE PRODUCT.

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

- Ingestion: Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.
- Eye Contact: Where eye contact is likely, use chemical splash goggles. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
- Skin Contact: Where contact is likely, wear chemical-resistant (such as nitrile or butyl) gloves, coveralls, socks and chemical-resistant footwear. For overhead exposure, wear chemical-resistant headgear.
- Inhalation: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below exposure limits. A NIOSH-certified combination air-purifying respirator with an N, P or R 95 or HE class filter and an organic vapor cartridge may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. Use a pressure demand atmosphere-supplying respirator if there is any potential for uncontrolled release, exposure levels are not known, or under any other circumstances where air-purifying respirators may not provide adequate protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance: Dark green liquid
- Odor: Strong; pungent; obnoxious
- Melting Point: Not Available
- Boiling Point: 212°F
- Specific Gravity/Density: 1.12 g/mL
- pH: 5(5% solution)

Solubility in H₂O

Paraquat dichloride: 620g/L @ 68°F (20°C)

Vapor Pressure

Paraquat dichloride: 23.7 mmHg @ 77°F (25°C)

10. STABILITY AND REACTIVITY

- Stability: Stable under normal use and storage conditions.
- Hazardous Polymerization: Not available at this time.
- Conditions to Avoid: 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 amount of phosgene, nitrogen oxides, ammonia, and other toxic and noxious fumes.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity/Irritation Studies (Finished Product)

- Ingestion: Highly Toxic
Oral (LD50 Rat) : = 283 mg/kg body weight
- Dermal: Practically Non-Toxic
Dermal (LD50 Rat) : > 2000 mg/kg body weight
- Inhalation: Highly Toxic

Inhalation (LC50 Rat) : 0.0006 mg/l air - 4 hours
Eye Contact: Moderately Irritating (Rabbit)
Skin Contact: Slightly Irritating (Rabbit)
Skin Sensitization: Not a skin sensitizer in animal tests.

Neurotoxicity

Paraquat dichloride: No signs in routine regulatory studies.

Reproductive Effects

Paraquat dichloride: Developmental Toxicity: No evidence in the rat or mouse.

Chronic/Subchronic Toxicity Studies

Paraquat dichloride: Irritants - 21-day rabbit dermal study. Cataracts, body weights reduction.

Carcinogenicity

Paraquat dichloride: No evidence in the rat or mouse.

Other Toxicity Information

The health hazard assessment is based on the results of animal toxicity testing and reports of accidental human exposures.

Toxicity of Other Components

Paraquat emetic technical

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, liver

Inert Ingredients

Paraquat emetic technical: Skin, eye, respiratory system

12. ECOLOGICAL INFORMATION

Summary of Effects

Paraquat dichloride:
Toxic to wildlife.

Eco-Acute Toxicity

Paraquat dichloride: Rainbow Trout 96-hour LC50 26 mg/l
Bobwhite Oral LD50 175 mg/kg
Mallard Oral LD50 199 mg/kg
Daphnia magna 48 hours EC50 6.1 mg/l
Mirror Carp 96 hours LC50 135 mg/l
Green Algae 96 hours EbC50 0.10 mg/l
Green Algae 96 hours ErC50 0.28 mg/l
Bobwhite Quail 5 Day LC50 981 mg/kg
Japanese Quail 5 Day LC50 970 mg/kg
Mallard Ducks 5 Day LC50 4,048 mg/kg
Ring-Necked Pheasants 5 Day LC50 1,468 mg/kg

Eco-Chronic Toxicity

Paraquat dichloride: Not Available

Environmental Fate

Paraquat dichloride:

No data available for the formulation. The information presented here is for the active ingredient, paraquat dichloride. A thorough review of environmental information is not possible in this document. For additional information call the toll free number listed in Section 16.

Soil/Environment: Paraquat is rapidly degraded by soil micro-organisms (DT50 of unadsorbed paraquat <1 w).

Strong binding in soil increases persistence. Paraquat is strongly bound and inactivated by soil and aquatic sediments,

and does not leach into groundwater; Kd >10000.

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 Applicable

14. TRANSPORT INFORMATION

DOT Classification

Corrosive Liquid, Toxic, N.O.S. (paraquat), 8 (6.1), UN2922, PGIII

B/L Freight Classification

Herbicides, NOIBN

Comments

International Transportation:

Corrosive Liquid, Toxic, N.O.S. (paraquat), Class 8 (6.1), UN2922, PGIII

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 (37.00%) (CAS No. 1910-42-5)

California Proposition 65

Not Applicable

CERCLA/SARA 302 Reportable Quantity (RQ)

> 25 lbs (based on paraquat dichloride, CAS # 1910-42-5 [RQ = 10 lbs] in the formulation)

RCRA Hazardous Waste Classification (40 CFR 261)

Not Applicable

TSCA Status

Exempt from TSCA, subject to FIFRA

16. OTHER INFORMATION

NFPA Hazard Ratings

Health: 3
Flammability: 1
Instability: 1

HMIS Hazard Ratings

Health: 3
Flammability: 1
Reactivity: 1

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: 03/07/1997

Revision Date: 02/25/2002

Replaces: 02/14/2002

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.

RSVP# : SCP-955-00270D

End of MSDS