

ZENECA Ag Products

MATERIAL SAFETY DATA SHEET

GRAMOXONE EXTRA

Version: 5

Date issued: 12/03/98

MSDS No. US003967_01

Date printed: 12/04/98

Section 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Company : Zeneca Agricultural Products
1800 Concord Pike
Wilmington DE 19850

Phone number : (302) 886-1000

Emergency phone : Medical: 800-327-8633 (1-800 FASTMED)
Chemtrec: 800-424-9300
Technical:302-886-3000

Name used on label : GRAMOXONE EXTRA

Product use : Herbicide

A Registered Trade Mark of a Zeneca Group Company.

Section 2 – COMPOSITION/INFORMATION ON INGREDIENTS

Identity	CAS-no.	Typical %	Other information
Paraquat dichloride	1910-42-5	37 % w/w	
PARAQUAT EMETIC TECHNICAL	27277-00-5	0.05 %	
inerts		63 %	

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

Section 3 – HAZARDS IDENTIFICATION

Physical hazards:

None

Health hazards:

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.

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Section 4 – FIRST AID MEASURES

GENERAL ADVICE:

Call Zeneca's 24 hour Emergency Information Network at 1-800-FASTMED (327-8633)

If a known exposure occurs or is suspected, immediately start the recommended procedures below. IMMEDIATE TREATMENT IS ESSENTIAL.

IF IN EYES:

Immediately flush with plenty of water for at least 15 minutes. Obtain medical attention.

IF ON SKIN:

Take off immediately all contaminated clothing. Wash material off the skin with plenty of soap and water. Obtain medical attention.

IF SWALLOWED:

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. See section on MEDICAL ADVICE.

IF INHALED:

Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention. 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.

MEDICAL ADVICE:

CALL ZENECA'S MEDICAL EMERGENCY INFORMATION NETWORK AT 1-800-327-8633 (Dial 1-800-F-A-S-T-M-E-D) at any hour to obtain toxicology and medical management consultation and paraquat analyses. Prompt treatment is essential and must be initiated immediately before signs and symptoms appear. 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.

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Section 5 – FIRE FIGHTING MEASURES

Flash point :

> 90 °C

no flash point due to high water content

Autoignition temperature :

> 625 °C

no ignition

Explosive properties :

LEL: Non-explosive.

EXTINGUISHING MEDIA:

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.

FIRE AND EXPLOSION HAZARDS:

Technical aqueous solutions present no ignition hazards. The pure material may support combustion. Keep fire exposed containers cool by spraying with water.

PROTECTIVE EQUIPMENT:

A self contained breathing apparatus and suitable protective clothing must be worn in fire conditions.

ADDITIONAL INFORMATION:

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.

NFPA RATING

Health

3

Fire

0

Reactivity

1

HMIS RATING

Health

3

Fire

0

Reactivity

1

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Section 6 – ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:

Wear skin, eye and respiratory protection during clean up. Spread a suitable absorbent such as clay on the spill, and shovel into an open drum. Untreated spilled material can dry to a highly irritating dust. For chemical emergency: spill, leak, fire, exposure or accident call CHEMTREC 1-800-424-9300.

ENVIRONMENTAL PRECAUTIONS:

Do not contaminate waterways by cleaning of equipment or by disposal of wastes. Although paraquat is not a RCRA hazardous waste, it is recommended that the waste be disposed of in a facility permitted for hazardous waste.

Section 7 – HANDLING AND STORAGE

SAFE HANDLING ADVICE:

Avoid contact with skin and eyes. Avoid inhalation of high concentrations of dusts. Avoid inhalation of liquid aerosols.

REQUIREMENTS FOR STORAGE ROOMS:

Empty container retains product residue. Triple rinse, or equivalent, empty container, return rinse water to dilution mixture, and dispose of dilution mixture as a hazardous waste if it cannot be disposed of by use according to label instructions. Do not reuse container. Offer it for recycling or reconditioning, or puncture and dispose of in properly permitted landfill.

Section 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure limits

ZENECA Standard on: PARAQUAT EMETIC TECHNICAL

8 hr TWA 0.02 mg/m³

ZENECA Standard on: Paraquat dichloride

(Respirable Dust)

TWA 0.1 mg/m³

(Total Dust)

TWA 0.5 mg/m³

TLV/ACGIH Paraquat dichloride

8 Hour TWA 0.1 mg/m³

OSHA PEL Paraquat dichloride

(Total Dust)

8 Hour TWA 0.5 mg/m³

Occupational exposure standards

ENGINEERING CONTROLS:

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VENTILATION:

Use ventilation adequate to maintain safe levels. This product is intended for use outdoors where engineering controls are not necessary. If use conditions are different (e.g. product reformulation or repackaging), use ventilation adequate to maintain safe levels.

EYE PROTECTION:

Use protective eyewear.

BODY PROTECTION:

This product is FIFRA regulated. Refer to product labeling for end-user Personal Protection requirements. Applicators must wear long-sleeved shirt and long pants, waterproof gloves, shoes and socks. Mixers and loaders must wear long-sleeved shirt and long pants, waterproof gloves, shoes and socks, face shield and chemical resistant apron. Remove any contaminated clothing promptly. Zeneca Inc. conducted ASTM permeation tests using PVC gloves (0.2mm thickness) and showed no breakthrough of the product after eight hours of testing.

HYGENIC MEASURES:

Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Other protective equipment:

Eyewash station and safety shower in work area.

Section 9 – PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: liquid
Color	: blue
Odor	: strong pungent
Boiling point	: approx 100 °C aqueous solution
Melting point	: Not available.
Vapor Pressure	: 23.7 mm Hg at 25 °C Due to water, paraquat has negligible vapor pressure.
Vapour density	: No data
Specific gravity:	: 1.12
Solubility	: soluble in/with water
pH-value (quant.)	: 5 : solution 5 %
Oxidizing properties	: Not applicable.

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Section 10 – STABILITY AND REACTIVITY

HAZARDOUS REACTIONS (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.

HAZARDOUS REACTIONS (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.

Section 11 – TOXICOLOGICAL INFORMATION

ACUTE TOXICITY (LETHAL DOSES)

LD50 Oral female rats

Dose : 283 mg formulation/kg

Additional inform. : An emetic is included in the formulation to induce vomiting. Signs and symptoms following ingestion include burning sensations, ulcerations of the mouth, tongue, pharynx and esophagus; vomiting, retching, and diarrhea may then ensue. A 1 to 3 week period of progressive kidney failure, liver complications, and pulmonary insufficiency may follow. Death is usually due to respiratory failure secondary to pulmonary fibrosis.

LD50 Dermal rat

Dose : > 2000 mg formulation/kg

Additional inform. : Intact skin is a very effective barrier to paraquat. If extreme damage occurs this barrier is removed and, in the presence of sufficient paraquat, absorption of toxic amounts may occur. Lung, kidney and liver injuries can ensue, followed by renal and pulmonary insufficiency. Death ensues after respiratory failure.

Repeated and/or prolonged skin contact with the concentrated product can cause skin damage, including

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erythema, edema, and ulceration. Repeated and/or prolonged skin contact with the spray dilution may cause mild skin irritation. Paraquat penetrates intact human skin very slowly at a rate of less than 0.5% in 24 hours. Penetration is faster through injured or damaged skin.

Contamination of nail base with concentrate may cause the formation of white spots on the nail or, in severe cases, transverse cracking and loss of nail. Normal growth follows without delay.

LC50 Inhalation

Dose : 0.6 .. 1.4 µg cation/l

Period : 4 hours

Additional inform. : Paraquat is not volatile; therefore, exposure to paraquat vapor is not applicable. Prolonged inhalation or overexposure to aerosolized paraquat can cause irritation of the upper respiratory tract mucosa, as evidenced by a burning sensation, nose bleeds, and sore throat. These symptoms remit on cessation of exposure. Systemic toxicity is unlikely to develop following inhalation because typical spray droplets are not likely to be of respirable size.

ACUTE TOXICITY (IRRITATION, SENSITIZATION ETC.)

Eye Irritation

Results : Moderate irritant to rabbit eyes.

Additional inform. : Will cause eye irritation in man. This material has a delayed eye irritation effect. May lead to ulceration of cornea and conjunctival epithelium giving rise to secondary infection. Although healing may be slow, the injury is superficial and with proper medical care recovery will be complete, even in severe cases.

Skin Irritation

Results : Slight irritant to rabbit skin.

Additional inform. : Can cause inflammation and in severe cases blistering of the skin with prolonged contact to undiluted product.

Skin Sensitization - M&K

Results : It is not a skin sensitizer in animal tests.

DELAYED OR CHRONIC TOXICOLOGICAL EFFECTS

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Long Term Exposure

Symptoms : Studies in animals have shown that repeated doses do not produce carcinogenic or teratogenic effects.

(rat).

Symptoms : A study in animals has shown that repeated doses produce no adverse reproductive effects.

NOEL : 150 ppm paraquat diet

(rat).

Symptoms : Signs of a proliferative lesion in the epithelium of lung alveoli in rats. There was no clear-cut evidence of oncogenic potential.

NOEL : 25 ppm paraquat diet over 2 years

GENERAL INFORMATION ABOUT ACUTE OR OTHER TOXICITIES

General information

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

Section 12 – ECOLOGICAL INFORMATION

ELIMINATION

Additional inform. : There is evidence of photodegradation in air.

ADDITIONAL INFORMATION ABOUT ECOLOGY

Toxic to wildlife.

Section 13 – DISPOSAL CONSIDERATIONS

Empty container retains product residue. Triple rinse, or equivalent, empty container, return rinse water to dilution mixture, and dispose of dilution mixture as a hazardous waste if it cannot be disposed of by use according to label instructions. Do not reuse container. Offer it for recycling or reconditioning, or puncture and dispose of in properly permitted landfill. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or public waters unless this product is specifically identified and addressed in a National Pollutant Discharge Elimination System (NPDES) permit.

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Section 14 – TRANSPORT INFORMATION

ROAD TRANSPORT DOT

Proper Shipping Name : BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC,
(contains paraquat as dichloride salt)
Class : 6.1
UN No. : UN3016
Packaging group : / III

Section 15 – REGULATORY INFORMATION

HAZARDOUS INGREDIENTS

Paraquat dichloride
PARAQUAT EMETIC TECHNICAL

Other regulations, restrictions and prohibitions

TSCA (Toxic Substances Control Act) Regulations, 40CFR 710:

This is a FIFRA-regulated pesticide and is exempt from TSCA regulations.

CERCLA and SARA Regulations (40 CFR 355, 370, and 372):

Section 313 Supplier Notification. This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372: Paraquat dichloride (CAS 1910-42-5)

The Threshold Planning Quantity (TPQ) under EPCRA SARA (Section 302) for Paraquat dichloride is 10 lbs.

Other Determined Regulations:

None

EPA

EPA Registration no.: 10182-00280

Section 16 – OTHER INFORMATION

ZENECA Ag Products believes that the information and recommendations contained herein (including data and statements) are accurate as of the date thereof. NO WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE, WARRANTY OF MERCHANTABILITY, OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE CONCERNING THE INFORMATION PROVIDED HEREIN. The information provided herein relates to the specific product designated and may not be valid where such product is used in

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