Product Name: PARAQUAT DICHLORIDE 276g/L SL

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Commercial product name: PARAQUAT DICHLORIDE 276g/L SL

Active Ingredient: PARAQUAT DICHLORIDE

Use Herbicide

2. COMPOSITION/INFORMATION ON INGREDIENTS

Identity	CAS number	content
PARAQUAT DICHLORIDE	1910-42-5	276g/L
Inerts		to 1L

Ingredients not precisely identified are proprietary or non hazardous.

Values are not product specifications.

3. HAZARD IDENTIFICATION OF PREPARATION

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.

4. FIRST AID MEASURES

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 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.

IF SWALLOWED:

SPEED IS ESSENTIAL. Immediate medical attention is required. If available, give an adsorbent such as activated charcoal, bentonite or Fuller's Earth.

5. FIRE-FIGHTING MEASURES

Flash point : > 90 ℃， no flash point due to high water content

Auto ignition temperature : not applicable

Flammable Limits: not applicable

Extinguishing Method and 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.

Fire Hazards:

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

Extinguishing Notice：

Contain run off water with, for example, temporary earth barriers，self contained breathing apparatus and suitable protective clothing must be worn in fire conditions.

6. ACCIDENTAL RELEASE MEASURES

Emergency Action:

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. 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. Person precautions outlined in Section 8.

Environmental precautions:

Do not contaminate waterways by cleaning of equipment or by disposal of wastes. The waste should be disposed of in a facility permitted for hazardous waste.

Clearing up method:

Scrub area with hard water detergent (e.g. commercial products such as Tide, white cat).

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

Handling Notice:

Avoid contact with skin and eyes. Avoid inhalation of high concentrations of dusts. Avoid inhalation of liquid aerosols. Wash thoroughly with soap and water after handling.

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

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

ENGINEERING CONTROLS:

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.

RESPIRATORY SYSTEM PROTECTION

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.

EYE PROTECTION:

Use protective eyewear.

BODY PROTECTION:

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.

HAND PROTECTION:

Waterproof gloves (thickness more than 0.2mm)

Other protective equipment:

Eyewash station and safety shower in work area.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	liquid
Color:	Dark green
Odor:	strong pungent
Boiling point:	approx 100 ℃ (aqueous solution)
Melting point:	not applicable
Specific gravity:	1.08 g/mL at 20℃
PH-value:	2-6
Vapor Pressure:	23.7 mm Hg at 25 ℃. Due to water, paraquat has negligible vapor pressure.
Vapour density:	not available
Solubility in water:	620g/l at 20℃ (paraquat dichloride)

10. STABILITY AND REACTIVITY

Stability:

Stable under normal use and storage conditions.

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.

Conditions to avoid:

Stable in acidic and neutral solution; decomposed by alkaline and in the presence of U.V. light. Compound inactivated by adsorption onto inert clay；

Hazardous Polymerization: Will not occur

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 - Oral: LD50 (rat-female) = 794 mg/kg

Oral: LD50 (rat-male) = 681 mg/kg

Acute toxicity - Dermal: LD50 (rat) > 2,150 mg/kg

Acute toxicity - Inhalation: LC50 (rat) > 0.0006 mg/L air (4 hours)

Skin irritation: slightly-irritating (rabbit).

Eye irritation: Moderately irritating (rabbit).

Primary Dermal Sensitization in Guinea-Pigs: Did not exhibit any sensitization potential.

Paraquat:

Chronic Toxicity Studies:

NOEL: 1.25 mg/kg bw/d (25 ppm) in chronic rat study

Neurotoxicity：

No signs in routine regulatory studies.

Reproductive Effects：

No evidence in the rat or mouse. NOEL was above 7.5mg/kg/day.

Carcinogenicity:

No evidence in the rat or mouse.

Teratogenicity:

Not teratogenic in animal experiments.

Target Organs:

Lung, kidney, liver

12. ECOLOGICAL INFORMATION

Paraquat:

Summary: Practically non-toxic to bees. Slightly toxic to fish. Moderately toxic to aquatic invertebrates and birds.

Fish: LC50 (96 hours-rainbow trout) >55 mg/L

LC50 (96 hours-rainbow Bluegill) >13 mg/L

Daphnia magna

EC50 (48 hours) =4.4 mg/L

NOEC (21 days) = 0.12 mg/L

Green algae

EC50 = 0.00023 mg /l (*Navicula pelliculosa* 96h study)

Birds

Bobwhite quail (8-day dietary) LC50 = 981 ppm

Mallard duck (8-day dietary) LC50 = 4,048 ppm

Bees

Oral LD50 > 9.06ug/bee

Contact LD50 > 9.26ug/bee

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 CONSIDERATION

WASTES DISPOSAL METHOD

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.

DISPOSAL NOTICE

Do not discharge effluent containing this product into lakes, streams, ponds, estuarines, oceans, or public waters unless this product is specifically identified and addressed in a National Pollutant Discharge Elimination System permit.

14. TRANSPORT INFORMATION

DOT Classification

Ground Transport – NAFTA

Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (paraquat), Marine Pollutant

Hazard Class or Division: Class 9

Identification Number: UN 3082

Packing Group: PG III

B/L Freight Classification

Herbicides, NOIBN

Comments

Water Transport - International

Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (paraquat), Marine Pollutant

Hazard Class or Division: Class 9

Identification Number: UN 3082

Packing Group: PG III

Air Transport - International

Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (paraquat), Marine Pollutant

Hazard Class or Division: Class 9

Identification Number: UN 3082

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 (20%) (CAS No. 4685-14-7)

RCRA Hazardous Waste Classification (40 CFR 261)

Corrosive D002

TSCA Status

Exempt from TSCA, subject to FIFRA

16. OTHER INFORMATION

The information contained herein is furnished without warranty of any kind. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of this material and the safety and health of employees and customers and the protection of the environment. To the best of our knowledge the facts given are correct. However the information is given without warranty as to its accuracy