

1. IDENTIFICATION

Product identifier

Product Name Paraquat Concentrate

Other means of identification

Product Code 83529-27
UN/ID no UN3016
Synonyms Para-Shot 3.0
Registration Number(s) 83529-27

Recommended use of the chemical and restrictions on use

Recommended Use Herbicide Restricted to professional users
Uses advised against Consumer use

Details of the supplier of the safety data sheet

Manufacturer Address
 Sharda USA LLC
 P.O. Box 640
 Hockessin, DE 19707
 Website: www.shardausa.com

Emergency telephone number

Company Phone Number 610-350-6930 (US)
 +91 22 5678 2800 (India)
Emergency Telephone CHEMTREC: 800-424-9300
 CHEMTREC: 703-527-3887
 POISON CONTROL CENTER: 800-222-1222

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 3
Acute toxicity - Inhalation (Dusts/Mists)	Category 2
Serious eye damage/eye irritation	Category 2
Skin sensitization	Category 1
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 1

Label elements

Emergency Overview

Danger

Hazard statements

Toxic if swallowed
 Fatal if inhaled
 Causes serious eye irritation
 May cause an allergic skin reaction
 May cause respiratory irritation

Causes damage to organs through prolonged or repeated exposure



Appearance viscous

Physical state liquid

Odor Strong Pungent

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Wear protective gloves/protective clothing/eye protection/face protection
Do not breathe dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Wear respiratory protection
Contaminated work clothing should not be allowed out of the workplace

Precautionary Statements - Response

Specific treatment is urgent (see instructions on this label)
Get medical advice/attention if you feel unwell
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
IF ON SKIN: Wash with plenty of soap and water
If skin irritation or rash occurs: Get medical advice/attention
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a POISON CENTER or doctor/physician
Call a POISON CENTER or doctor/physician if you feel unwell
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Rinse mouth

Precautionary Statements - Storage

Store locked up
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not applicable

Other Information

Very toxic to aquatic life with long lasting effects. May be harmful in contact with skin.

Unknown acute toxicity

0% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable

Mixture

Chemical Name	CAS No	Weight-%
Inert ingredients *	Proprietary	30 - 60
Paraquat dichloride	1910-42-5	43.2

*The exact percentage (concentration) of composition has been withheld as a trade secret. If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

General advice	Immediate medical attention is required. Call a poison control center or doctor for treatment advice. Have the product containers or label with you when calling a poison control center or doctor, or going for treatment.
Eye contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Call a poison control center or doctor for treatment advice.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Remove contaminated clothing and shoes. Wash contaminated clothing before reuse. Call a poison control center or doctor for treatment advice.
Inhalation	Move victim to fresh air. Administer oxygen if breathing is difficult. If breathing is irregular or stopped, administer artificial respiration. Call a physician or poison control center immediately. The odor of this product is from the stenching agent, which has been added, not from the paraquat. Call a poison control center or doctor for treatment advice.
Ingestion	If swallowed, call a poison control center or physician immediately. SPEED IS ESSENTIAL. Immediate medical attention is required. If available, give an absorbent such as activated charcoal, bentonite or Fuller's Earth. Drink 1 or 2 glasses of water. Rinse mouth. Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice.
Self-protection of the first aider	Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. Use personal protection recommended in Section 8. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Most important symptoms and effects, both acute and delayed

Symptoms	May cause redness and tearing of the eyes. May cause skin irritation. Coughing and/ or wheezing. May cause damage to lungs, including sores, bleeding and disease. Note - Symptoms are prolonged and painful.
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Indication of any immediate medical attention and special treatment needed

Note to physicians	Administer either activated charcoal (100g for adults or 2g/kg body weight in children) or Fuller's Earth (15% solution; 1 liter for adults or 15ml/kg body weight in children). NOTE: The use of gastric lavage without administration of an absorbent 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.
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5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Dry chemical, CO₂, water spray or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for

later disposal.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Hazardous combustion products Carbon oxides. Nitrogen oxides (NOx). Hydrogen chloride.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective gloves/protective clothing and eye/face protection. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid contact with skin, eyes and inhalation of vapors. Ensure adequate ventilation, especially in confined areas.

For emergency responders Use personal protection recommended in Section 8. Ventilate the area.

Environmental precautions

Environmental precautions Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so. Dike far ahead of spill; use dry sand to contain the flow of material.

Methods for cleaning up Prevent product from entering drains. Take up with sand or other non-combustible absorbent material and place into containers for later disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Avoid contact with skin, eyes or clothing. Wash thoroughly after handling. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Use personal protective equipment as required. Do not breathe dust/fume/gas/mist/vapors/spray. Use with local exhaust ventilation.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feeding stuffs. Keep in properly labeled containers.

Packaging materials Keep only in original container. Reacts with aluminum and its alloys.

Incompatible materials Strong oxidizing agents. Aluminum.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Paraquat dichloride 1910-42-5	-	TWA: 0.5 mg/m ³ respirable dust S*	IDLH: 1 mg/m ³ TWA: 0.1 mg/m ³ respirable dust

Legend

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992)

Skin - Skin Absorber

NIOSH IDLH Immediately Dangerous to Life or Health

Appropriate engineering controls

Engineering Controls Ensure adequate ventilation, especially in confined areas. And. Showers. Eyewash stations. Ventilation systems.

Individual protection measures, such as personal protective equipment

- | | |
|---------------------------------|--|
| Eye/face protection | Wear safety glasses with side shields (or goggles). |
| Skin and body protection | Wear suitable protective clothing. Wear protective butyl rubber gloves. Protective shoes or boots. |
| Respiratory protection | Ensure adequate ventilation, especially in confined areas. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations. |

General Hygiene Considerations When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Wash hands thoroughly after handling. Keep away from food, drink and animal feeding stuffs.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	liquid	Odor	Strong Pungent
Appearance	viscous	Odor threshold	No information available
Color	blue		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	4.3	
Melting point / freezing point	No information available	
Boiling point / boiling range	No information available	
Flash point	> 100 °C / 212 °F	Tag Closed Cup
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	~17 mmHg	@ 25 °C
Vapor density	No information available	
Relative density	1.130	
Water solubility	No information available	
Solubility in other solvents	No information available	@ 25 °C
Partition coefficient	2.44	
Autoignition temperature	No information available	

Decomposition temperature	No information available
Kinematic viscosity	No information available
Dynamic viscosity	No information available
Explosive properties	Not an explosive
Oxidizing properties	Not applicable

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Density	No information available
Bulk density	9.42 lb/gal

10. STABILITY AND REACTIVITY**Reactivity**

No data available

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to avoid

Elevated Temperature. Storage near to reactive materials.

Incompatible materials

Strong oxidizing agents. Aluminum.

Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating and toxic gases and vapors. Nitrogen oxides (NOx). Carbon oxides. Hydrogen chloride.

11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure**

Product Information	Acute Oral LD50 (rat): 300-2000 mg/kg Acute Dermal LD50 (rabbit): > 2000 mg/kg Eye Irritation (rabbit): Causes eye irritation. Skin Irritation (rabbit): Not an irritant. Inhalation LC50 (rat): >2.19 ug/L (4 HR) Skin Sensitization (guinea pig): Sensitizer. Ames Test: Not mutagenic.
Inhalation	May be fatal if inhaled. May cause irritation.
Eye contact	Severely irritating to eyes.
Skin contact	Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. May be harmful in contact with skin.
Ingestion	Toxic if swallowed.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Inert ingredients	> 90 mL/kg (Rat)	-	-
Paraquat dichloride 1910-42-5	= 223 mg/kg (Rat) = 57 mg/kg (Rat)	= 79 mg/kg (Rat) = 80 mg/kg (Rat) = 325 mg/kg (Rabbit)	= 1 mg/m ³ (Rat) 6 h

Information on toxicological effects

Symptoms May cause an allergic skin reaction. Redness. May cause redness and tearing of the eyes. Coughing and/ or wheezing. May cause damage to lungs, including sores, bleeding and disease. Note - Symptoms are prolonged and painful.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization May cause sensitization by skin contact.
Germ cell mutagenicity Based on available data, the classification criteria are not met.
Carcinogenicity Based on available data, the classification criteria are not met.
Reproductive toxicity Based on available data, the classification criteria are not met.
STOT - single exposure Respiratory system.
STOT - repeated exposure Causes damage to organs through prolonged or repeated exposure.
Chronic toxicity Prolonged or repeated exposure increases the risk. Possible risk of irreversible effects. Avoid repeated exposure.
Target Organ Effects Respiratory system, Central nervous system, Gastrointestinal tract (GI), Eyes, Skin, heart, liver, kidney.
Aspiration hazard Based on available data, the classification criteria are not met.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 132.00 mg/kg
ATEmix (dermal) 694.00
ATEmix (inhalation-dust/mist) 0.12 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

Very toxic to aquatic life with long lasting effects This product is toxic to wildlife. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash waters.

56.8 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Paraquat dichloride 1910-42-5	-	15: 96 h Cyprinus carpio mg/L LC50 static 8.5 - 19: 96 h Lepomis macrochirus mg/L LC50 static 11.0 - 19.0: 96 h Oncorhynchus mykiss mg/L LC50 static	9.1 - 12.2: 48 h Daphnia magna mg/L EC50 Static

Persistence and degradability

Not readily biodegradable. Paraquat is quickly and strongly adsorbed by soil particles, especially in clay soil. Such bound residues are not available to plants, earthworms, and microorganisms. Because of its unavailability, and its resistance to microbial degradation and breakdown by sunlight, paraquat is long-lived. The bound residues persist indefinitely and are transported in runoff with the sediment. The reported half-life for paraquat in soil ranges from 16 months (aerobic laboratory conditions) to 13 years (field study).

Bioaccumulation

Not likely to bioaccumulate.

Other adverse effects

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT)

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes

Pesticide wastes may be acutely hazardous. Improper disposal is a violation of federal law. Disposal should be in accordance with applicable regional, national and local laws and regulations. Contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance on proper disposal of waste product.

Contaminated packaging Disposal should be in accordance with applicable regional, national and local laws and regulations. Consult product label for additional information. Do not reuse container.

14. TRANSPORT INFORMATION

DOT NOTE - For containers with a net quantity of 23 LBS or more, the descriptive text/designation "RQ (Paraquat dichloride)" is required either before or after the shipping description.

UN/ID no	UN3016
Proper shipping name	Bipyridilium pesticides, liquid, toxic
Hazard Class	6.1
Packing Group	III
Special Provisions	IB3, T7, TP2, TP28
Description	UN3016, Bipyridilium pesticides, liquid, toxic mixture, 6.1, III
Emergency Response Guide Number	151

TDG

UN/ID no	UN3016
Proper shipping name	Bipyridilium pesticide, liquid, toxic mixture
Hazard Class	6.1
Packing Group	III
Description	UN3016, Bipyridilium pesticide, liquid, toxic mixture (Paraquat dichloride), 6.1, III

IATA

UN/ID no	UN3016
Proper shipping name	Bipyridilium pesticide, liquid, toxic
Hazard Class	6.1
Packing Group	III
ERG Code	6L
Special Provisions	A3, A4
Description	UN3016, Bipyridilium pesticide, liquid, toxic (Paraquat dichloride), 6.1, III

IMDG

UN/ID no	UN3016
Proper shipping name	Bipyridilium pesticide, liquid, toxic
Hazard Class	6.1
Packing Group	III
EmS-No	F-A, S-A
Special Provisions	61, 223, 274
Description	UN3016, Bipyridilium pesticide, liquid, toxic (Paraquat dichloride), 6.1, III

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDL	Complies
EINECS/ELINCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 - Threshold Values %
Paraquat dichloride - 1910-42-5	1.0

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Paraquat dichloride 1910-42-5	-	10 lb	-

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Inert ingredients	-	-	X
Paraquat dichloride 1910-42-5	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number 83529-27

EPA Statement

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Difference between SDS and EPA Pesticide label

DANGER: May be fatal if swallowed. Fatal if inhaled. Corrosive. Causes irreversible eye damage. Wear protective eyewear. Do not breathe spray mist. Wear a dust mist respirator. Do not get in eyes or on clothing. Harmful if absorbed through skin. Avoid contact with skin. Prolonged or frequently repeated contact may cause allergic reactions in some individuals.

: 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. Prolonged contact with this concentrated product can irritate your skin.

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION
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NFPA	Health hazards 3	Flammability 0	Instability 0	Physical and Chemical Properties -
HMIS	Health hazards 3*	Flammability 0	Physical hazards 0	Personal protection X
<i>Chronic Hazard Star Legend</i>	<i>* = Chronic Health Hazard</i>			

Issue Date 04-Jul-2016

Revision Date 04-Jul-2016

Revision Note

No information available

Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

04Jul2016