SAFETY DATA SHEET

1. Identification

Product identifier **Parazone 3SL Herbicide**

Other means of identification

SDS number 570_v1.1

Recommended use Herbicide.

Recommended restrictions This is a Restricted Use Pesticide and is for use by licensed applicators only.
No other uses are advised.
Keep out of the Reach of Children!

EPA Registration number EPA: 5481-615

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name	AMVAC Chemical Corporation	
Address	4100 E Washington Blvd Los Angeles, CA 90023 USA	
Telephone	AMVAC Chemical Corp	323-264-3910
	AMVAC Chemical Corp	323-268-1028 (FAX)
Website	www.Amvac-Chemical.com	
E-mail	CustServ@Amvac-Chemical.com	

Emergency phone number

Medical	888-681-4261
CHEMTREC® (USA+Canada)	800-424-9300
Product Use	888-462-6822
CHEMTREC® (Outside USA)	+1-703-527-3887

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards

Acute toxicity, oral	Category 3
Acute toxicity, dermal	Category 2
Acute toxicity, inhalation	Category 1
Skin corrosion/irritation	Category 1C
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
Specific target organ toxicity, repeated exposure	Category 1

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement Toxic if swallowed.
Fatal in contact with skin.
Causes severe skin burns and eye damage.
Causes serious eye damage.
Fatal if inhaled.
May cause respiratory irritation.
Causes damage to organs through prolonged or repeated exposure.

Precautionary statement

Prevention	Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. Wear respiratory protection.
Response	Immediately call a poison center/doctor. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. If swallowed: Immediately call a poison center/doctor. If swallowed: Rinse mouth. Do NOT induce vomiting. Take off immediately all contaminated clothing and wash it before reuse.
Storage	Store locked up. Store in a well-ventilated place. Keep container tightly closed.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Paraquat dichloride	1,1-Dimethyl 4,4-bipyridinium dichloride; Paraquat	1910-42-5	42.5 - 45.1

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a physician or poison control center immediately. Oxygen or artificial respiration if needed. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Have person sip a glass of water if able to swallow Never give anything by mouth to a victim who is unconscious or is having convulsions.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. May cause drowsiness or dizziness. Prolonged exposure may cause chronic effects. Ingestion may cause severe burns to mouth, throat or stomach.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed. In case of ingestion consider gastric lavage with protected airway, administration of activated charcoal.
General information	Show this safety data sheet to the doctor in attendance. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Take off immediately all contaminated clothing. If you feel unwell, seek medical advice (show the label where possible). Discard any shoes or clothing items that cannot be decontaminated.

5. Fire-fighting measures

Suitable extinguishing media	Foam. Powder. Carbon dioxide (CO2). Foam or dry chemical systems are preferred to prevent environmental damage from excessive water runoff.
Unsuitable extinguishing media	Not available.

Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	This product is miscible in water. Prevent entry into waterways, sewer, basements or confined areas. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Siphon the spilled liquid into a recovery drum for reuse or disposal, depending on the circumstances. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Observe good industrial hygiene practices. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. When using, do not eat, drink or smoke. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash thoroughly after handling. Wash contaminated clothing before reuse.
Conditions for safe storage, including any incompatibilities	Store locked up. Store in original tightly closed container. Store in a well-ventilated place. Keep away from excessive heat. Do not store or transport below 0°C/32°F. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Paraquat dichloride (CAS 1910-42-5)	PEL	0.5 mg/m3	Respirable dust.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Paraquat dichloride (CAS 1910-42-5)	TWA	0.5 mg/m3	
		0.1 mg/m3	Respirable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Paraquat dichloride (CAS 1910-42-5)	TWA	0.1 mg/m3	Respirable.

Biological limit values No biological exposure limits noted for the ingredient(s).

Exposure guidelines

US - California OELs: Skin designation

Paraquat dichloride (CAS 1910-42-5) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Paraquat dichloride (CAS 1910-42-5)	Skin designation applies.

US - Tennessee OELs: Skin designation

Paraquat dichloride (CAS 1910-42-5)	Can be absorbed through the skin.

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

Paraquat dichloride (CAS 1910-42-5)	Can be absorbed through the skin.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Paraquat dichloride (CAS 1910-42-5)	Can be absorbed through the skin.

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection If there is a potential for splashing Goggles or a full face shield should be used.

Skin protection

Hand protection Wear appropriate chemical resistant gloves. Viton gloves are recommended.

Other Long-sleeved shirt and long pants or coveralls, socks and chemical resistant closed toe shoes are required. If there is a possibility of splashing or spillage, a chemical resistant apron or chemical resistant coverall should also be worn.

Respiratory protection If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Liquid.

Color Dark green.

Odor Strong. Pungent.

Odor threshold Not available.

pH 3.5 - 4

Melting point/freezing point Not available.

Initial boiling point and boiling range Not available.

Flash point > 212 °F (> 100 °C)

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure Not available.

Vapor density Not available.

Relative density 1.135 g/cm³

Solubility(ies)

Solubility (water)	Miscible
Auto-ignition temperature	> 1157 °F (> 625 °C)
Decomposition temperature	Not available.
Viscosity	Not available.

Other information

Bulk density	9.47 lb/gal
Dynamic viscosity	2.44 centistokes, @ 40°C 3.65 centistokes, @ 20°C
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials. Excessive heat. Avoid temperatures below 0°C/32°F.
Incompatible materials	Aluminum. 10% permanganate solutions and iron powder.
Hazardous decomposition products	No hazardous decomposition products are known. Emits hazardous fumes and smoke of unknown composition when heated to decomposition or burned.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Very toxic by inhalation. May cause irritation to the respiratory system.
Skin contact	Fatal in contact with skin. Causes severe skin burns.
Eye contact	Causes serious eye damage.
Ingestion	Toxic if swallowed. Causes digestive tract burns.
Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation.

Information on toxicological effects

Acute toxicity	Fatal if inhaled. Fatal in contact with skin. Toxic if swallowed. Causes serious eye damage. Causes severe burns. May cause respiratory irritation.

Components	Species	Test Results
Paraquat dichloride (CAS 1910-42-5)		
Acute		
Dermal		
LD50	Rabbit	325 mg/kg
	Rat	80 mg/kg
Inhalation		
LC50	Rat	0.6 - 1.4 mg/kg
Oral		
LD50	Rat	57 mg/kg

Skin corrosion/irritation	Causes severe skin burns and eye damage.
Serious eye damage/eye irritation	Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	Not a skin sensitizer.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure May cause respiratory irritation. May cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard Not an aspiration hazard.

Chronic effects Causes damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful.

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, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Parazone 3SL is a contact herbicide that desiccates all green plant tissue. Paraquat dichloride, the active ingredient in this product, is toxic to non-target crops and plants if off-target movement occurs because it desiccates all green plant tissue. Extreme care must be taken to ensure that off-target drift is minimized to the greatest extent possible. Refer to the local and state laws, regulations, guidelines, and spray drift information contained in the "Directions for Use" section of the product labeling for proper application to avoid off-target movement. Do not apply under conditions involving possible drift to food, forage, or other plantings that might be damaged or the crops thereof rendered unfit for sale, use, or consumption. Do not apply when weather conditions favor drift from treated areas. To avoid drift, do not make aerial applications during periods of thermal inversion.

Components		Species	Test Results
Paraquat dichloride (CAS 1910-42-5)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia pulex)	2.7 - 6 mg/l, 48 hours
Fish	LC50	Bluegill (Lepomis macrochirus)	8.5 - 19 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

Paraquat dichloride -4.22

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal law. If these wastes cannot be disposed by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA regional office for guidance. Do not allow this material to drain into sewers/water supplies. Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN2922
UN proper shipping name	Corrosive liquids, toxic, n.o.s. (Paraquat dichloride)
Transport hazard class(es)	
Class	8
Subsidiary risk	6.1(PGIII)
Label(s)	8, 6.1
Packing group	III
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	IB3, T7, TP1, TP28
Packaging exceptions	154
Packaging non bulk	203
Packaging bulk	241

IATA

UN number	UN2922
UN proper shipping name	Corrosive liquids, toxic, n.o.s. (Paraquat dichloride)
Transport hazard class(es)	
Class	8
Subsidiary risk	6.1(PGIII)
Label(s)	8, 6.1
Packing group	III
Environmental hazards	Yes, when transported over large bodies of water
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

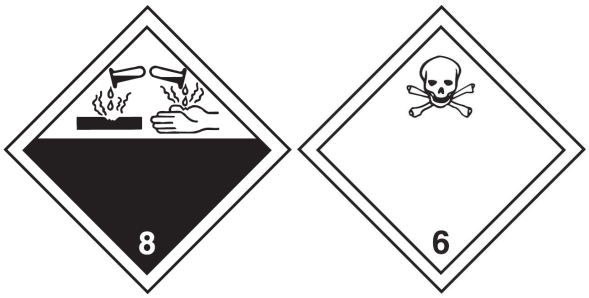
IMDG

UN number	UN2922
UN proper shipping name	Corrosive liquids, toxic, n.o.s. (Paraquat dichloride), MARINE POLLUTANT
Transport hazard class(es)	
Class	8
Subsidiary risk	6.1(PGIII)
Label(s)	8, 6.1
Packing group	III
Environmental hazards	
Marine pollutant	yes
EmS	Not available.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not established.

DOT

IATA; IMDG



Marine pollutant

General information IMDG Regulated Marine Pollutant.

15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
This product is registered under EPA/FIFRA Regulations as a RESTRICTED USE PESTICIDE. It is a violation of Federal Law to use this product in any manner inconsistent with its labeling. Read and follow all label directions. This product is excluded from listing requirements under EPA/TSCA.

This is a pesticide product registered by the United States 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 (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

HAZARD TO HUMANS AND DOMESTIC ANIMALS.

DANGER -- POISON
May be fatal if swallowed. Fatal if inhaled. Do not breathe spray mist. Wear a dust/mist respirator as specified in the PPE section of this label. Causes irreversible eye damage. Wear protective eyewear. Harmful if absorbed through skin. Do not get in eyes or on clothing. Avoid contact with the skin. IMPORTANT: 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.

ENVIRONMENTAL HAZARDS
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 disposing of equipment washwater.

PHYSICAL AND CHEMICAL HAZARDS
This product is mildly corrosive to aluminum and produces hydrogen gas which may form a highly combustible gas mixture. Do not mix or store in containers, spray tanks, nurse tanks, or such systems made of aluminum or having aluminum fittings. This product is compatible with high-density polyethylene and rubber-lined steel containers.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Paraquat dichloride (CAS 1910-42-5)	10 LBS

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity, lower value (pounds)	Threshold planning quantity, upper value (pounds)
Paraquat dichloride	1910-42-5	10		10	10000

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Paraquat dichloride	1910-42-5	42.5 - 45.1

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date Aug-23-2017

Revision date Aug-23-2017

References
ACGIH®: American Conference of Governmental Industrial Hygienists
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act
EPA: Environmental Protection Agency
FIFRA: Federal Insecticide, Fungicide, and Rodenticide Act
IARC: International Agency for Research on Cancer
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Agency
SARA: Superfund Amendments and Reauthorization Act
TSCA: Toxic Substances Control Act
DOT: Department of Transportation
IMDG: International Maritime Dangerous Goods
IATA: International Air Transport Association

Version # 1.1

Further information Not available.

HMIS® ratings
Health: 4*
Flammability: 0
Physical hazard: 0

NFPA ratings
Health: 4
Flammability: 0
Instability: 0

Disclaimer

This information is provided for the limited guidance to the user. While AMVAC believes that the information is, as of the date hereof, reliable, it is the user's responsibility to determine the suitability of the information for its purposes. The user is advised not to construe the information as absolutely complete since additional information may be necessary or desirable when particular, exceptional, or variable conditions or circumstances exist (like combinations with other materials), or because of applicable regulations. No express or implied warranty of merchantability or fitness for a particular purpose or otherwise is made hereunder with respect to the information or the product to which the information relates.
AMVAC Chemical Corporation cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use.

Revision information

Product and Company Identification: Product and Company Identification