



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® 800-424-9300 (USA+Canada) 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. Avoid discharge into drains, water courses or onto the ground.

Environmental precautions

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.
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US - Tennessee OELs: Skin designation

Paraquat dichloride (CAS 1910-42-5)	Can be absorbed through the skin.
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US NIOSH Pocket Guide to Chemical Hazards: Skin designation

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

LD50	Rat	57 mg/kg
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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.
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Components	Species	Test Results
Paraquat dichloride (CAS 1910-42-5)		
Aquatic		
Crustacea	EC50 Water flea (<i>Daphnia pulex</i>)	2.7 - 6 mg/l, 48 hours
Fish	LC50 Bluegill (<i>Lepomis macrochirus</i>)	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.

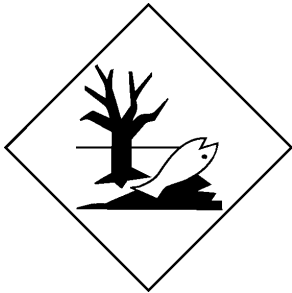
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

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.

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NFPA is a trademark of the National Fire Protection Association, Inc.

Revision information

Product and Company Identification: Product and Company Identification