

Material Safety Data Sheet
Dr. Fog Solution

Section 1 - Chemical Product and Company Identification

MSDS Name:

Dr. Fog Solution

Catalog Numbers:

31187, 31188

Synonyms:

None Known.

Company Identification:

Richard Allan Scientific
4481 Campus Drive
Kalamazoo, MI 49008

Company Phone Number:

800-522-7270

Emergency Phone Number:

800-424-9300

CHEMTREC Phone Number, US:

(800) 424-9300

CHEMTREC Phone Number, Europe:

(202) 483-7616

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name:	Percent	EINECS/ ELINCS	Hazard Symbols	Risk Phrases
7732-18-5	Water	85-86	231-791-2		
67-63-0	Isopropyl alcohol	10-11	200-661-7	F XI	11 36 67
Blend	Monawell MO-70E	0-4	Blend		

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Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: Colorless liquid

Warning! Combustible liquid and vapor. Breathing vapors may cause drowsiness and dizziness. Causes eye and respiratory tract irritation. Aspiration hazard if swallowed. Can enter lungs and cause damage. Prolonged or repeated contact causes defatting of the skin with irritation, dryness, and cracking. May cause central nervous system depression. Flash Point: 101°F.

Target Organs: Central nervous system, Respiratory system, Eyes, Skin

Potential Health Effects

Eye:

Produces irritation, characterized by a burning sensation, redness, tearing, inflammation, and possible corneal injury.

Skin:

May cause irritation with pain and stinging, especially if the skin is abraded. Isopropanol has a low potential to cause allergic skin reactions; however, rare cases of allergic contact dermatitis have been reported. May be absorbed through intact skin.

Ingestion:

Causes gastrointestinal irritation with nausea, vomiting and diarrhea. May cause kidney damage. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure. Aspiration of material into the lungs may cause chemical pneumonitis, which may be fatal.

Inhalation:

Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. May cause narcotic effects in high concentration. Causes upper respiratory tract irritation. Inhalation of vapors may cause drowsiness and dizziness.

Chronic:

Prolonged or repeated skin contact may cause defatting and dermatitis.

Section 4 - First Aid Measures

Eyes:

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid.

Skin:

In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Wash clothing before reuse.

Ingestion:

Potential for aspiration if swallowed. Get medical aid immediately. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If vomiting occurs naturally, have victim lean forward.

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Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician:

Treat symptomatically and supportively.

Antidote:

No specific antidote exists.

Section 5 - Fire Fighting Measures

General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Use water spray to keep fire-exposed containers cool. Combustible liquid and vapor. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas.

Extinguishing Media:

Water may be ineffective. Do NOT use straight streams of water. For large fires, use dry chemical, carbon dioxide, alcohol-resistant foam, or water spray. For small fires, use carbon dioxide, dry chemical, dry sand, or alcohol-resistant foam. Cool containers with flooding quantities of water until well after fire is out.

Autoignition Temperature:

Not applicable.

Explosion Limits:

Lower: Not available Upper: Not available

Flash Point:

101°F (38.33°C)

NFPA Rating:

(estimated) Health: 1; Flammability: 2; Instability: 0

Section 6 - Accidental Release Measures

General Information:

Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Use water spray to dilute spill to a non-flammable mixture. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. A vapor suppressing foam may be used to reduce vapors.

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Section 7 - Handling and Storage

Handling:

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Take precautionary measures against static discharges. Keep container tightly closed. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Use only with adequate ventilation. Avoid breathing vapor or mist.

Storage:

Keep away from sources of ignition. Store in a tightly closed container. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Chemical Name:	ACGIH	NIOSH	OSHA
Water	None listed	None listed	None listed
Isopropyl alcohol	200 ppm TWA;400 ppm STEL	400 ppm TWA; 980 mg/m3 TWA 2000 ppm IDLH	400 ppm TWA; 980 mg/m3 TWA;
Monawet MO-70E	None listed	None listed	None listed

OSHA Vacated PELs

Isopropyl alcohol: 400 ppm TWA; 980 mg/m3 TWA

Personal Protective Equipment

Eyes:

Wear chemical splash goggles.

Skin:

Wear appropriate protective gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to prevent skin exposure.

Respirators:

A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Color: Colorless

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Odor: Alcohol-like
pH: No information found
Vapor Pressure: No information found
Vapor Density: No information found
Evaporation Rate: No information found
Viscosity: No information found
Boiling Point: No information found
Freezing/Melting Point: No information found
Decomposition Temperature: No information found
Solubility in water: Miscible.
Specific Gravity/Density: No information found
Molecular Formula: Solution
Molecular Weight: No information found

Section 10 - Stability and Reactivity

Chemical Stability:

Stable.

Conditions to Avoid:

Ignition sources, excess heat

Incompatibilities with Other Materials

Strong oxidizing agents, strong acids, strong bases, amines, ammonia, ethylene oxide, isocyanates, acetaldehyde, chlorine, phosgene, Attacks some forms of plastics, rubbers, and coatings., aluminum at high temperatures

Hazardous Decomposition Products

Carbon monoxide, carbon dioxide

Hazardous Polymerization

Will not occur.

Section 11 - Toxicological Information

RTECS:

CAS# 7732-18-5: ZC0110000
CAS# 67-63-0: NT8050000

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LD50/LC50:

CAS# 7732-18-5:

Oral, rat: LD50 = >90 mL/kg.

CAS# 67-63-0:

Draize test, rabbit, eye: 100 mg Severe

Draize test, rabbit, eye: 10 mg Moderate

Draize test, rabbit, eye: 100 mg/24H Moderate

Draize test, rabbit, skin: 500 mg Mild

Inhalation, mouse: LC50 = 53000 mg/m³

Inhalation, rat: LC50 = 16000 ppm/8H

Inhalation, rat: LC50 = 72600 mg/m³

Oral, mouse: LD50 = 3600 mg/kg

Oral, mouse: LD50 = 3600 mg/kg

Oral, rabbit: LD50 = 6410 mg/kg

Oral, rat: LD50 = 5045 mg/kg

Oral, rat: LD50 = 5000 mg/kg

Skin, rabbit: LD50 = 12800 mg/kg.

Carcinogenicity:

CAS# 7732-18-5: Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

CAS# 67-63-0: Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology:

No information found

Teratogenicity:

A rat & rabbit developmental toxicity study showed no teratogenic effects at doses that were clearly maternally toxic. In a separate rat study, no evidence of developmental neurotoxicity was associated with gestational exposures to IPA up to 1200 mg/kg/d

Reproductive:

See actual entry in RTECS for complete information.

Mutagenicity:

See actual entry in RTECS for complete information.

Neurotoxicity:

In rats exposed to isopropanol by inhalation, acute neurotoxicity was noted at 1 and 6 hours at 5000 ppm, but only minimal effects were seen at 1500 ppm and the animals recovered within 5 hours. No toxicity was noted at 500 ppm.

Other:

See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Ecotoxicity:

Fish: Fathead Minnow: >1000 ppm; 96h; LC50

Daphnia: >1000 ppm; 96h; LC50

Fish: Gold orfe: 8970-9280 ppm; 48h; LC50

IPA has a high biochemical oxygen demand and a potential to cause oxygen depletion in aqueous systems, a low potential to affect aquatic organisms, a low potential to affect secondary waste treatment microbial metabolism, a low potential to affect the germination of some plants, a high potential to biodegrade (low persistence) with unacclimated microorganisms from activated sludge.

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Environmental:

No information found

Physical:

THOD: 2.40 g oxygen/g
COD: 2.23 g oxygen/g
BOD-5: 1.19-1.72 g oxygen/g

Other:

No information found

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Part 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P Series Wastes

None of the components are on this list.

RCRA U Series Wastes

None of the components are on this list.

Section 14 - Transport Information

	US DOT	Canadian TDG
Proper Shipping Name:	ALCOHOLS, N.O.S. (Isopropanol)	ALCOHOLS, N.O.S. (Isopropanol)
Hazard Class:	3	3
UN Number:	UN1987	UN1987
Packing Group:	III	III

Section 15 - Regulatory Information

US Federal

TSCA

CAS# 7732-18-5 is listed on the TSCA Inventory.
CAS# 67-63-0 is listed on the TSCA Inventory.
Monawel MO-70E is listed on the TSCA Inventory.

Health and Safety Reporting List

CAS# 67-63-0: Effective 12/15/86, Sunset 12/15/96

Chemical Test Rules

CAS# 67-63-0: 40 CFR 799.2325

TSCA Section 12b

None of the components are on this list.

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TSCA Significant New Use Rule (SNUR)

None of the components are on this list.

CERCLA Hazardous Substances and corresponding RQs

None of the components are on this list.

SARA Section 302 Extremely Hazardous Substances

None of the components are on this list.

SARA Hazard Categories

CAS# 67-63-0: immediate, delayed, fire.

SARA Section 313

This material contains Isopropyl alcohol (CAS# 67-63-0, 10-11%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 372.

Clean Air Act - Hazardous Air Pollutants (HAPs)

None of the components are on this list.

Clean Air Act - Class 1 Ozone Depleters

None of the components are on this list.

Clean Air Act - Class 2 Ozone Depleters

None of the components are on this list.

Clean Water Act - Hazardous Substances

None of the components are on this list.

Clean Water Act - Priority Pollutants

None of the components are on this list.

Clean Water Act - Toxic Pollutants

None of the components are on this list.

OSHA - Highly Hazardous

None of the components are on this list.

OSHA - Specifically Regulated Chemicals

None of the components are on this list.

US State

State Right to Know

Isopropyl alcohol can be found on the following state Right-to-Know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.
No information found

California Prop 65

None of the components are on this list.

California No Significant Risk Level

None of the components are on this list.
None of the components are on this list.
None of the components are on this list.

European/International Regulations

European Labelling in Accordance with EC Directives:

Hazard Symbols: F XI
Risk Phrases: R 11 Highly flammable.
R 36 Irritating to eyes.

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R 67 Vapours may cause drowsiness and dizziness.

Safety Phrases: S 7 Keep container tightly closed.

S 16 Keep away from sources of ignition - No smoking.

S 24/25 Avoid contact with skin and eyes.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

WGK (Water Danger/Protection)

No information found

United Kingdom Occupational Exposure Limits

No information found

United Kingdom Maximum Exposure Limits

No information found

Canadian DSL/NDSL

CAS# 7732-18-5 is listed on Canada's DSL List.

CAS# 67-63-0 is listed on Canada's DSL List.

Canadian WHMIS Classifications

This product has a WHMIS classification of D2B, B3.

This product has been classified in accordance with the hazard criteria of the Controlled Products

Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 67-63-0 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Other Information

No information found

MSDS Creation Date: May 5, 2006

Revision Date: May 5, 2006

Revisions were made in Sections:

3, 4, 5, 7, 8, 9, 14

This MSDS is intended for review and guidance in the receipt, storage, handling, use and disposal of product purchased from us, and for no other purpose. Use this product only as directed and in accordance with applicable instructions and warnings provided with the product. Please consult your institution's policies regarding use of this product. If you have obtained this MSDS other than in connection with the supply of this product from us, this MSDS should be consulted for general information only, and should not be relied upon for any purpose. As with the use of all hazardous materials, you should in all instances follow the guidance of the MSDS provided or available with the specific product purchased.