



1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Name: Dry Film RA/IPA-5
PTFE Release Agent/Dry Lubricant

Product Use: Release Agent or Dry Lubricant

MANUFACTURER/DISTRIBUTOR:

Miller-Stephenson Chemical
55 Backus Ave.
Danbury, Conn. 06810 USA
(203) 743-4447

Emergency Phone Number:
(800) 424-9300

2. HAZARDS IDENTIFICATION

Hazard classification

Flammable liquids: Category 2
Serious Eye Damage/Eye Irritation: Category 2A
Specific Target Organ Toxicity (single exposure): Category 3

Label elements:

Signal word

Danger

Pictograms



Hazardous warnings

Highly flammable liquid and vapor.
Causes serious eye irritation.
May cause drowsiness or dizziness

Precautionary Statements

Keep away from heat/sparks/open flames/hot surfaces and other ignition sources – No smoking.
Keep container tightly closed.
Use explosion-proof electrical/ventilating/lighting/equipment.
Use only non-sparking tools.

Take precautionary measures against static discharge.
Avoid breathing fumes/gas/vapor/spray.
Wash skin thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/eye protection/face protection.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing.
Rinse skin with water/shower.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Call a POISON CENTER or doctor/ physician 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.
Store in a well-ventilated place. Keep container tightly closed. Keep cool.
Dispose of contents/container to an approved waste disposal plant.

Other Hazards

The thermal decomposition vapors of fluorinated polymers may cause polymer fume fever with flu-like symptoms in humans, especially when smoking contaminated tobacco. Vapors may form explosive mixture with air.

3. INGREDIENTS

<u>Material (s)</u>	<u>CAS No.</u>	<u>Approximate %</u>
Isopropyl Alcohol	67-63-0	94 – 96

4. FIRST AID MEASURES

Inhalation: Remove patient to fresh air. Get medical attention.

Eye: Immediately flush eyes with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Continue to rinse. Get medical attention.

Skin: Immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before use. Thoroughly clean shoes before reuse. Get medical attention.

Oral: DO NOT induce vomiting. Get medical attention. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed: Inhalation of decomposition products may provoke the following symptoms: Polymer fume fever. Eye contact may provoke the following symptoms: Irritation Causes serious eye irritation. May cause drowsiness or dizziness.

5. FIRE FIGHTING MEASURES

Flash Point: 53°F /12°C

Method: Tag Closed Cup

Autoignition Temperature: 750°F /399°C

Flammable Limits in Air, % by Vol.:

LEL: 2%

UEL: 12%

Suitable Extinguishing Media: Water spray, Alcohol-resistant foam, Dry chemical, Carbon dioxide (CO₂)

Unsuitable extinguishing media: High volume water jet.

Special hazards: Flammable liquid. Vapor forms explosive mixture with air. Vapors are heavier than air and may spread along the floor. Vapors or gases may travel considerable distances to ignition sources and flash back. Hazardous gases/vapors produced in fire are carbon monoxide, carbon dioxide and fluorinated compounds.

Special Fire Fighting Instruction: In the event of fire, wear self-contained breathing apparatus and other protective clothing to prevent contact with the skin and eyes.

Further information: Keep unopened containers cool by spraying with water.

6. ACCIDENTAL RELEASE MEASURES

Safeguards (Personnel): Use personal protective equipment. Avoid breathing vapors, mist or gas. Evacuate personnel to safe area. Remove all sources of ignition. Beware of vapors accumulating to form explosive concentrations. Vapors accumulate in low areas. In case of insufficient ventilation, wear suitable respiratory equipment.

Environmental precautions: If containers rupture, prevent material from entering sewers, waterways, or low areas.

Spill Cleanup: Contain spillage. Soak up with inert absorbent material (e.g. sand, silica gel, universal binder, and sawdust) and put the material into a waste disposal container for disposal according to local regulations.

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes, skin, or clothing. Do not inhale vapor or mist. Wash thoroughly after handling. Keep away from heat, sources of ignition, sparks, and open flame. Take measures to prevent the buildup of electrostatic charge. Do not consume food, drink or smoke in areas that may be contaminated with this material.

Storage Conditions: Keep container tightly closed and store in a clean, cool and dry area that is well-ventilated. Avoid storage with strong oxidizing agents, Pyrophoric substances, flammable solids. Do not store sources of heat, in direct sunlight or where temperatures exceed 120°F/49°C.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits:

Isopropyl Alcohol

TWA (ACGIH)

200 ppm, TWA

TWA (OSHA)

400 ppm, TWA

Use only with adequate ventilation.

Vapors are heavier than air posing a hazard of asphyxia if they are trapped in enclosed or low places. Mechanical ventilation should be used in these areas.

Eye Protection: Wear safety glasses or coverall chemical splash goggles.

Respiratory Protection General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection

Skin Protection: Where there is potential for skin contact have available and wear as appropriate impervious gloves and protective clothing.

Do not smoke in area. Wash after handling. Do not eat or drink when using the material.

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: 82°C/180°F

Percent Volatile by Volume: 95%

Density: 0.8 g/cc at 77°F/25°C

Vapor Pressure: 33 mmHg at 68°F/20°C

Vapor Density (Air=1): 2.1

Solubility in H₂O : IPA is soluble, but polymer is not.

pH Information: 4 –7

Evaporation Rate (CC14=1): N.A.

Form: Liquid

Appearance: Milky

Color: White

Odor: Characteristic alcohol

10. STABILITY AND REACTIVITY

Chemical Stability: Stable at normal temperatures and storage conditions.

Possibility of hazardous reactions: Vapors may form explosive mixture with air. Can react with strong oxidizing agents. Hazardous decomposition products will be formed at elevated temperatures.

Conditions to Avoid: Heat, sparks, and flames. Decomposes on heating. Decomposition temperature is 572°F/300°C. Avoid static discharge.

Incompatible Materials: Oxidizing agents

Hazardous decomposition products: Carbon oxides. Hydrofluoric acid. Carbonyl difluoride.

11. TOXICOLOGICAL INFORMATION

Isopropyl Alcohol

Acute Oral Toxicity: LD50, Rat: > 5,000mg/kg

Acute Inhalation Toxicity: 6 hour, LC50, Rat: > 25mg/l (vapor)

Acute Dermal Toxicity: LD50, Rabbit: > 5,000 mg/kg

Skin Corrosion/Irritation: No skin irritation in rabbits

Serious Eye Irritation/ Eye Irritation: Eye irritation, in rabbits. Reversing in 21 days.

Skin Sensitization: Not classified based on available information

Respiratory Sensitization: Not classified based on available information

Germ Cell Mutagenicity: Not classified based on available information

Carcinogenicity: Not classified based on available information.

Reproductive toxicity: Not classified based on available information

STOT-single exposure: May cause drowsiness and dizziness.

STOT-repeated exposure: Not classified based on available information

Aspiration toxicity: Not classified based on available information

12. ECOLOGICAL INFORMATION

Isopropyl Alcohol

Ecotoxicity: The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Toxic to Fish: 96 hour, LC50 in Fathead minnow (*Pimephales promelas*): 9640 mg/l

Toxic to daphnia and other aquatic invertebrates: 24 hour, EC50 Water flea (*Daphnia magna*): >10,000 mg/l

Toxic to microorganisms: 16 hour, EC50 (*Pseudomonas putida*): >1,050 mg/l

Persistence and degradability: Rapidly degradable

Bioaccumulative potential: Partition coefficient n-octanol/ water (log Pow): 0.05

Mobility in soil: No data available.

13. DISPOSAL CONSIDERATIONS

Empty containers must not be burned because of the explosive hazard. Recover and reclaim or recycle, if practical. Comply with Federal, State/Provincial and Local regulations. Remove to a permitted waste disposal facility.

14. TRANSPORT INFORMATION

U.S. DOT

Proper Shipping Name: Isopropanol

Hazard Class: 3

Identification No. UN1219

Packing Group: II

IATA

Proper Shipping Name: Isopropanol

Hazard Class: 3

Identification No. UN1219

Packing Group: II

IMDG

Proper Shipping Name: Isopropanol

Hazard Class: 3

Identification No. UN1219

Packing Group: II

15. REGULATORY INFORMATION

U.S. Federal Regulations

TSCA: All ingredients are listed in TSCA inventory.

SARA 304 Extremely Hazardous Substances Reportable Quantity: This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity: This material does not contain any components with a section 302 EHS RQ.

SARA 311/312 Hazards: Flammable (gases, aerosols, liquids or solids). Serious eye damage or eye irritation. Specific target organ toxicity (single or repeated exposure).

SARA 313 Regulated Chemicals: The following component are subject to reporting levels established by SARA Title III, Section 313: Isopropyl Alcohol.

California Proposition 65: This product does not contain chemicals known to the State of California to cause cancer and/or birth defects or other reproductive harm.

16. OTHER INFORMATION

NPCA-HMIS Ratings:

Health - 2

Flammability - 3

Reactivity - 0

Personal Protective rating to be supplied by user depending on the conditions.

FOR INDUSTRIAL USE ONLY

REVISION DATE: MARCH 2019

The information provided in this 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. Final determination of suitability of any material is the sole responsibility of the user.