



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

Eye Irritation: Category 2

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 respiratory 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.

Ground/bond container and receiving equipment.

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 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.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Call a POISON CENTER or doctor/ physician if you feel unwell.
If eye irritation persists: Get medical advice/ attention.
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction
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. Repeated episodes of polymer fume fever may result in persistent lung effects. Dust may cause: Respiratory tract irritation, difficulty in breathing, shortness of breath.

3. INGREDIENTS

<u>Material (s)</u>	<u>CAS No.</u>	<u>Approximate %</u>
Isopropyl Alcohol	67-63-0	94 – 96
Poly-TFE, Alpha-Hydro-Omega-(Methylcyclohexyl)	65530-85-0	3 – 4
Polytetrafluoroethylene	9002-84-0	1 – 2

4. FIRST AID MEASURES

Inhalation: If inhaled, immediately remove to fresh air. Keep person calm. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician immediately

Eye: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

Skin: Wash off with soap and water. Wash contaminated clothing before reuse. If skin irritation persists, call a physician.

Oral: DO NOT INDUCE VOMITING. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Never give anything by mouth to an unconscious person. Get medical attention.

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: No applicable data available.

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, 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. 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: Where there is potential for airborne exposures in excess of applicable limits, wear NIOSH approved respiratory protection.

Skin Protection: Where there is potential for skin contact have available and wear as appropriate impervious gloves. Gloves of nitrile rubber are recommended.

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 flammable mixture in air.

Conditions to Avoid: Heat, sparks, and flames. Exposure to elevated temperatures, direct sunlight. Decomposition temperature is 572°F/300°C. Avoid static discharge.

Incompatible Materials: Avoid contact with: Aldehydes. Halogenated compounds. Strong acids. Strong oxidizers. Strong bases. Reactive metals. Alkali metals. Alkaline earth metals.

Hazardous decomposition products: Carbon oxides. Fluorinated compounds.

11. TOXICOLOGICAL INFORMATION

Isopropyl Alcohol

Acute Toxicity

Ingestion: LD50, Rat, 4,710 mg/l

Skin Absorption: LD50, Rabbit, 12,870 mg/kg

Inhalation: LC50, 4 h, Vapor, Rat, 72.6 mg/l

Skin Corrosion/Irritation: No significant irritation in multiple animal species.

Serious Eye Damage/Irritation: Serious eye irritant in Rabbits

Sensitization Skin: Not sensitizing in Guinea pigs

Sensitization Respiratory: Data not available or insufficient for classification

Germ Cell Mutagenicity: In vitro and In vivo - Not Mutagenic

Carcinogenicity: Some positive data exists with inhalation in rats, but the data is not sufficient for classification.

Reproductive and/or Developmental Toxicity: Some positive developmental data exist in rats, but the data are not sufficient for classification.

Repeated Dose Toxicity: In Rats, some positive data exists, on the following organs: bladder and kidney, but not sufficient for classification.

Single Dose Toxicity: In Humans, some positive data exists on the nervous and respiratory systems, but not sufficient for classification. May cause drowsiness or dizziness, if ingested.

Aspiration Hazard: Not an aspiration hazard

Poly-TFE, Omega-Hydro-Alpha-(Methylcyclohexyl)-

Oral: ADL/rat: >17,000 mg/kg

Skin irritation: No skin irritation, guinea pig

Eye irritation: No eye irritation, rabbit

Skin sensitization: Did not cause sensitization on laboratory animals., guinea pig

Poly-Tetrafluoroethylene

Oral: LD50/rat: >11,280 mg/kg

Skin irritation: No skin irritation, guinea pig

Eye irritation: No eye irritation, rabbit

Skin sensitization: Did not cause sensitization on laboratory animals., guinea pig

Repeated dose toxicity: Oral, rat

No toxicologically significant effects were found.

12. ECOLOGICAL INFORMATION

Aquatic Toxicity:

Isopropyl Alcohol:

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

Fish Acute & Prolonged Toxicity

LC50, fathead minnow (*Pimephales promelas*), flow-through, 96 h: 9,640 - 10,400 mg/l

Aquatic Invertebrate Acute Toxicity

EC50, water flea *Daphnia magna*, 48 h, immobilization: 7,550 - 13,299 mg/l

Aquatic Plant Toxicity

EC50, alga *Scenedesmus* sp., Growth rate inhibition, 72 h: > 1,000 mg/l

Toxicity to Micro-organisms

EC50; activated sludge, respiration inhibition: > 1,000 mg/l

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 311/312 Hazards

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

16. OTHER INFORMATION

NPCA-HMIS Ratings:

Health - 1
Flammability - 3
Reactivity - 0

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

FOR INDUSTRIAL USE ONLY

REVISION DATE: APRIL 2015

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.