

1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Name: ReleaSys™ DFS-2.0
DryFilm Mold Release

Product Use: DryFilm Lubricant & Mold Release

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
Skin corrosion/irritation: Category 2
Eye Irritation: Category 2A
Aspiration Hazard: Category 1
Specific target organ toxicity - single exposure: Category 3

Label elements:

Signal word

Danger

Pictograms



Hazard Statements

Highly flammable liquid and vapor.
May be fatal if swallowed and enters airways.
Causes skin irritation.
Causes serious eye irritation.
May cause drowsiness or dizziness.

Precautionary Statements

Keep away from heat/sparks/open flames/hot surfaces – 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 mist/vapors/spray.
Wash skin thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

If skin irritation occurs: Get medical advice/attention.

IF INHALED: Remove person 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.

Take off contaminated clothing and wash before reuse.

In case of fire: Use water fog, dry chemical, alcohol-resistant foam, Carbon dioxide for extinction.

Store in a well-ventilated place. Keep container tightly closed. Keep cool.

Dispose of contents/container in accordance with local, regional, or international regulations.

Hazards not otherwise classified or not covered by GHS: The thermal decomposition vapors of fluorinated polymers may cause polymer fume fever with flu-like symptoms in humans, especially when smoking contaminated tobacco. Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor may cause flash fire or explosion.

3. INGREDIENTS

<u>Material (s)</u>	<u>CAS No.</u>	<u>Approximate %</u>
Naphtha (petroleum), hydrotreated light	64742-49-0	85 - 95
Isopropyl Alcohol	67-63-0	5 - 10

4. FIRST AID MEASURES

Inhalation: Remove patient to fresh air immediately and keep at rest in a position comfortable for breathing. Get medical attention immediately.

Eye: Flush with large amounts of water immediately, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue to rinse. Get medical attention immediately.

Skin: Take off immediately all contaminated clothing. Wash affected area with soap and water and rinse with large amounts of water for 15 minutes. Get medical attention immediately.

Oral: Do not induce vomiting. Never give anything to mouth to an unconscious person. Rinse mouth with water. Immediately consult a physician or poison control center, treat symptomatically.

Most important symptoms/effects, acute and delayed: Aspiration may cause pulmonary edema and pneumonitis. May cause drowsiness and dizziness. Headache. Nausea, vomiting. Direct contact with eyes may cause temporary irritation. Skin irritation. May cause redness and pain.

Indication of immediate medical attention and special treatment needed: Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to the hospital. Keep victim under observation. Symptoms may be delayed.

General information: Take off all contaminated clothing immediately. Wash contaminated clothing before use. Ensure the medical personnel are aware of the material involved (show the label, if possible), and take precautions to protect themselves. Have the safety data sheet available.

5. FIRE FIGHTING MEASURES

Flash Point: 15.8 °F/-9 °C

Fire and Explosion: DANGEROUS FIRE HAZARD WHEN EXPOSED TO HEAT OR FLAME. VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL A CONSIDERABLE DISTANCE TO A SOURCE OF IGNITION AND FLASH BACK. VAPOR-AIR MIXTURES ARE EXPLOSIVE. Keep containers tightly closed. Flammable liquid; isolate from all sources of ignition. Closed containers may explode when exposed to extreme heat. Liquid floats on water. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, carbon oxides and other unidentified organic compounds evolve when this material undergoes combustion.

Suitable Extinguishing Media: Water fog, Foam, Dry chemical, Carbon dioxide (CO₂)

Unsuitable Extinguishing Media: Do not use waterjet as an extinguisher, as this will spread the fire.

Hazardous combustion products: Hydrogen fluoride, Fluorine compounds, Carbonyl fluoride, Carbon oxides.

Special Fire Fighting Instruction: Keep unnecessary people away. Do not breathe fumes or vapors from fire. Self-contained breathing apparatus (SCBA) and protective clothing must be worn. Use water spray to knock down vapors. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Do Not Use: Water in straight hose stream will scatter and spread fire and should not be used. Fight fire from a distance, heat may rupture containers. Vapors may travel a considerable distance and flash back. Vapors/air mixtures are explosive.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Flammable Liquid. Release causes an explosive hazard. All equipment used when handling this material must be grounded. Use personal protective equipment. Evacuate personnel to safe area. Remove all sources of ignition. Beware of vapors accumulating to form explosive concentrations. In case of insufficient ventilation, wear suitable respiratory equipment. If a large amount is accidentally released, use self-contained breathing apparatus.

Environmental precautions: If containers rupture, prevent material from entering sewers, waterways, or low areas. Should not be released into the environment. Local authorities should be advised if significant spillages cannot be contained.

Spill Cleanup: Soak up with sand, oil dry or other noncombustible absorbent materials. Place in an approved container for disposal according to local / national regulations. After all visible traces, including vapors, have been removed, thoroughly wet vacuum the area. Caution: Contaminated surfaces may be slippery.

7. HANDLING AND STORAGE

Handling: Use in a well-ventilated area to avoid breathing vapors. Flash back possible over considerable distance. Container explosion may occur under fire conditions. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build-up of electrostatic charge. Use only non-sparking tools. Ground/bond container and receiving equipment. Use only with adequate ventilation. Use appropriate respiratory protection when ventilation is inadequate. Wear rubber gloves, goggles, and chemical protective clothing. Avoid contact with skin or eyes. Wash thoroughly after handling.

Storage Conditions: Store in a cool, dry, well-ventilated place and keep container tightly closed. Keep away from heat, sparks and flames. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Vapors may be ignited by static. Make sure storage area meets to requirements and applicable fire codes.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits:

Naphtha (petroleum), hydrotreated light
Isopropyl Alcohol

TWA (ACGIH)

Not Established
200 ppm

TWA (OSHA)

Not Established
400 ppm

Respiratory Protection: Avoid breathing vapors, mists or spray. Use with adequate ventilation especially for enclosed or low places. Use NIOSH approved respirators, such as an air-purifying respirator with organic vapor cartridges. In poorly ventilated areas, use an approved self-contained breathing apparatus.

Eye Protection: Avoid eye contact. Use chemical splash goggles. Eyewash should be easily accessible to work area.

Skin Protection: Where there is potential for skin contact have available and wear as appropriate impervious gloves and protective clothing. Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential. Wash hands before breaks and at the end of workday. Breakthrough time is not determined for the product. Change gloves often.

General Hygiene: Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Wash work clothing and protective equipment to remove contaminants. Emergency shower and eyewash should be easily accessible to work area.

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: 200°F/93°C

Percent Volatile by Volume: N.A.

Density: 0.70 g/cc at 77°F/25°C

Vapor Pressure: N/A

Vapor Density (Air=1): N.A.

Solubility in H₂O: N.A.

pH Information: N.A.

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

Form: Liquid

Appearance: Milky

Color: White

Odor: Hydrocarbon

10. STABILITY AND REACTIVITY

Chemical Stability: Stable at normal temperatures and storage conditions.

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

Conditions to Avoid: Avoid all possible sources of ignition (heat, sparks, flame, etc.). Do not allow vapor to accumulate in low or confined areas.

Incompatible Materials: Oxidizing agents.

Hazardous decomposition products: Thermal decomposition: Carbon dioxide, Carbon monoxide, Hydrogen fluoride, Carbonyl difluoride

11. TOXICOLOGICAL INFORMATION

Naphtha (petroleum), hydrotreated light

Symptoms related to the physical, chemical, and toxicological characteristics: Aspiration may cause pulmonary edema and pneumonitis. May cause drowsiness and dizziness. Headache. Nausea. Vomiting. Skin irritation. May cause redness and pain.

Acute Oral: LD50: >5840 mg/kg in rats. Method: Similar to OECD Test Guideline 401

Acute Inhalation (vapor): 4 hour LC50: >23.3 mg/l in rats. Method: Similar to OECD Test Guideline 403

Acute Dermal: LD50: >2920 mg/kg in rats. Method: Similar to OECD Test Guideline 402

Skin corrosion/irritation: Causes skin irritation. Method: Similar to OECD Test Guideline 404

Serious eye damage/eye irritation: Direct contact with eyes may cause temporary irritation. Method: Similar to OECD Test Guideline 405

Skin Sensitization: Not expected to be a skin sensitizer. Method: Similar to OECD Test Guideline 406

Respiratory Sensitization: Not expected to be a respiratory sensitizer.

Germ cell mutagenicity: Not expected to be a germ cell mutagen. Method: Similar to OECD Test Guideline 471, 473, 476

Carcinogenicity: Not expected to cause cancer.

Reproductive Toxicity: Not expected to be a reproductive toxicant. Method: Similar to OECD Test Guideline 414, 416

STOT-single exposure: May cause drowsiness and dizziness.

STOT-repeated exposure: Not expected to cause organ damage from prolonged or repeated exposure. Method: Similar to OECD Test Guideline 413

Aspiration hazard: May be fatal if swallowed and enters airways.

Isopropyl Alcohol

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

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

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

Skin Corrosion/Irritation: No skin irritation in rabbits.

Serious Eye Damage/Irritation: Irritation to eyes in Rabbits, reversing within 21 days.

Skin Sensitization: Buehler Test (skin contact) is negative in Guinea pig. Method OECD Test Guideline 406

Respiratory Sensitization: Not classified based on available information.

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

Carcinogenicity: Negative in rats exposed 104 weeks by inhalation (vapor). Method: OECD Test Guideline 451

Reproductive Toxicity: Negative in rats by ingestion based on Two-generation reproduction toxicity study and Embryo-fetal development.

STOT- single exposure: May cause drowsiness or dizziness.

STOT- repeated exposure: NOAEL, Rat exposed 104 weeks by inhalation (vapor): 12.5 mg/l

Aspiration toxicity: Not classified based on available information.

12. ECOLOGICAL INFORMATION

Naphtha (petroleum), hydrotreated light

Acute toxicity to fish: 96 hour LL50 in Oncorhynchus mykiss: >13.4 mg/l data for similar materials

Acute toxicity to daphnia and other aquatic invertebrates: 48 hour EL50 in Daphnia magna (Water flea): 3 mg/l data for similar materials.

Acute toxicity to algae: 72 hour EL50 in Pseudokirchneriella subcapitata: >10 to 30 mg/l data for similar materials

72 hour NOEL in Pseudokirchneriella subcapitata: 10 mg/l data for similar materials

Chronic toxicity to daphnia and other aquatic invertebrates: 21 days EL50 in Daphnia magna (Water flea): 1.6 mg/l data for similar materials. 21 days NOEC in Daphnia magna (Water flea): 0.17 mg/l data for similar materials.

Conclusion: Acute toxicity: Toxic to aquatic life. **Chronic toxicity:** Toxic to aquatic life with long lasting effects.

Biodegradability: Readily biodegradable. 98% in 28 days data for similar materials.

Bioaccumulative potential: Not determined

Mobility in soil: Highly volatile, will partition rapidly to air. Not expected to partition to sediment and wastewater solids.

Other Adverse Effects: The product contains volatile organic compounds with have a photochemical ozone depletion potential.

Isopropyl Alcohol

Acute toxicity to fish: 96 hour LC50 in Pimephales promelas (fathead minnow): 10,000 mg/l

Acute toxicity to daphnia and other aquatic invertebrates: 24 hour EC50 in Daphnia magna (water flea): >10,000 mg/l

Acute toxicity to microorganisms: 16 hour EC50 in Pseudomonas putida: >1,050 mg/l

Persistence and degradability: Rapidly degradable. BOD: 1.19 (BOD5)COD: 2.23BOD/COD: 53%

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

Mobility in soil: No data available.

13. DISPOSAL CONSIDERATIONS

Comply with federal, state and local regulations. Remove to a permitted waste disposal facility.

14. TRANSPORT INFORMATION

U.S. DOT

Proper Shipping Name: Flammable liquid, n.o.s. (Heptanes, Isopropyl Alcohol)

Hazard Class: 3

Identification No. UN1993

Packing Group: II

IATA

Proper Shipping Name: Flammable liquid, n.o.s. (Heptanes, Isopropyl Alcohol)

Hazard Class: 3

Identification No. UN1993

Packing Group: II

IMDG

Proper Shipping Name: Flammable liquid, n.o.s. (Heptanes, Isopropyl Alcohol)

Hazard Class: 3

Identification No. UN1993

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 TPQ.

SARA 311/312 Hazards: Flammable liquids: Category 2
Skin corrosion/irritation: Category 2
Eye Irritation: Category 2A
Aspiration Hazard: Category 1
Specific target organ toxicity - single exposure: Category 3

SARA 313 Regulated Chemicals: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR 372). They may not be intentionally present in the product; however, it is possible that it may be present as an impurity and the exact concentration may vary between batches:

Perfluorobutanoic acid, CAS No.: 375-22-4, < 0.5 ppb
Perfluorohexanoic acid, CAS No.: 307-24-4, < 1.0 ppb
Perfluorononanoic acid, CAS No.: 375-95-1, < 1.0 ppb
Perfluorododecanoic acid, CAS No.: 307-55-1, < 1.2 ppb
Perfluorodecanoic acid, CAS No.: 335-76-2, < 1.2 ppb
Perfluorooctanoic acid, CAS No.: 335-67-1, < 2 ppb

U.S. State Regulations:

California Prop. 65

WARNING: This product can expose you to chemicals including 2,2'-Iminodiethanol, which is/are known to the State of California to cause cancer, and Carbon monoxide, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov. Note to User: This product is not made with PFOA nor is PFOA intentionally present in the product; however, it is possible that PFOA may be present as an impurity at background (environmental) levels.

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

DATE: APRIL 18, 2024

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.