

## 1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION

**Name:** MS-532N  
DPMS-N0616B-1  
Contact Re-Nu®

**Product Use:** Electrical Contact Cleaning

### **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**

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

### **Label elements:**

#### **Signal word**

Warning

#### **Pictogram**



### **Hazard Statements**

Causes serious eye irritation.  
May cause drowsiness or dizziness.

### **Prevention Statements**

Avoid breathing dust/fume/gas/mist/vapors/spray.  
Wash thoroughly after handling.  
Use only outdoors or in a well-ventilated area.  
Wear gloves/protective clothing/eye protection/face protection.  
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.

Dispose of contents/ container to an approved waste disposal plant.

### **Other Hazards**

In use, may form flammable/explosive vapor-air mixture. Vapors are heavier than air and can cause suffocation by reducing oxygen available for breathing. Misuse or intentional inhalation abuse may lead to death without warning symptoms, due to cardiac effects.

### **3. INGREDIENTS**

| <b><u>Material (s)</u></b>            | <b><u>CAS No.</u></b> | <b><u>Approximate %</u></b> |
|---------------------------------------|-----------------------|-----------------------------|
| 1,1,1,2,2,3,4,5,5,5-Decafluoropentane | 138495-42-8           | 22 – 30                     |
| Trans,1,2-Dichloroethylene            | 156-60-5              | 55 – 65                     |
| Isopropyl Alcohol                     | 67-63-0               | 14 - 16                     |

### **4. FIRST AID MEASURES**

**Inhalation:** Remove patient to fresh air. Get medical attention if symptoms occur.

**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/effects, acute and delayed:** May cause cardiac arrhythmia.

Skin contact may provoke the following symptoms: Dermatitis, Discomfort, Pain, Superficial burning sensation, Redness, Rash, Itching, Swelling of tissue, Irritation

Eye contact may provoke the following symptoms: Pain, Tearing, Swelling of tissue, Redness, Impairment of vision

Inhalation may provoke the following symptoms: Unconsciousness, Drowsiness, Lack of coordination, confusion, Dizziness, Central nervous system depression

Effects of breathing high concentrations of vapor may include: Tiredness, Drowsiness, Central nervous system effects, Convulsions

Adverse effects from repeated inhalation may include central nervous system effects

Aspiration may cause pulmonary edema and pneumonitis. Causes eye irritation. May cause drowsiness or dizziness.

**Notes to Physician:** Treat symptomatically and supportively.

### **5. FIRE FIGHTING MEASURES**

**Flammability:** This product is not flammable. Does not flash.

**Suitable Extinguishing Media:** Water spray, Alcohol-resistant foam, Dry chemical, Carbon dioxide (CO<sub>2</sub>)

**Unsuitable extinguishing media:** No applicable data available.

**Special hazards:** Fire or intense heat may cause violent rupture of packages. The product is not flammable. Vapors may form flammable/explosive mixture with air. Hazardous combustion products: Hydrogen fluoride, Fluorine compounds, Carbonyl fluoride, Carbon oxides, Chlorine compounds.

**Special Fire Fighting Instruction:** In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment. Exposure to decomposition products may be a hazard to health.

**Further information:** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Evacuate personnel to safe areas. Cool containers with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures:** Evacuate personnel to safe area. Ventilate area. Use personal protective equipment.

**Environmental precautions:** If cans rupture, prevent material from entering sewers, waterways, or low areas. Should not be released into the environment. Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.

**Spill Cleanup:** Contain spillage, and then collect with inert absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations.

## 7. HANDLING AND STORAGE

**Handling:** Use in a well-ventilated area to avoid breathing vapors. Use only with adequate ventilation. Use appropriate respiratory protection when ventilation is inadequate. When using do not eat, drink, or smoke. Avoid contact with skin, eyes or clothing. Wash thoroughly after handling. Take care to prevent spills and minimize release to the environment.

**Storage Conditions:** Store tightly sealed in a clean, dry, and well-ventilated place. Do not store in temperatures that exceed 125°F/52°C because the containers could leak or rupture from pressure and expansion.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Limits:

### TLV (ACGIH)

### PEL (OSHA)

1,1,1,2,2,3,4,5,5,5-Decafluoropentane  
Trans,1,2-Dichloroethylene  
Isopropyl Alcohol

Not Established  
200 ppm, TWA  
400 ppm, STEL

Not Established  
200 ppm, 8 Hr. TWA  
400 ppm, 8 Hr. TWA

**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.

**Eye Protection:** Avoid eye contact. Use chemical goggles or safety glasses with side shields.

**Skin Protection:** Avoid contact with skin. Use gloves impervious to this material. For special applications, we recommend clarifying the resistance to chemicals of the protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday. Breakthrough time is not determined for the product. Change gloves often.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Boiling Point:** 131°F/55°C

**Percent Volatile by Volume:** 100

**Density:** 1.26 g/cc @ 77°F/25°C

**Vapor Pressure:** 302 mmHg @ 77°F/25°C

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

**Solubility in H<sub>2</sub>O:** N.A.

**pH Information:** Neutral

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

**Form:** Liquid

**Appearance:** Clear & Colorless

**Color:** Colorless

**Odor:** Alcohol

## 10. STABILITY AND REACTIVITY

**Reactivity:** Not classified as a reactivity hazard.

**Chemical stability:** Stable under normal conditions.

**Possibility of hazardous reactions:** In use, may form flammable/explosive vapor-air mixture.

**Material and Conditions to Avoid:** None known.

**Decomposition:** No hazardous decomposition products are known.

## 11. TOXICOLOGICAL INFORMATION

### 1,1,1,2,2,3,4,5,5,5-Decafluoropentane

**Information on likely routes of exposure:** Inhalation, Skin contact, Ingestion, Eye contact

**Acute Oral:** LD50: > 5000 mg/kg in rats. Method: OECD Test Guideline 401

**Acute Inhalation (vapor):** 4 hour LC50: 114.428 mg/l in rats. Method: OECD Test Guideline 403

**Acute Dermal:** LD50: > 5000 mg/kg in rabbits. Method: OECD Test Guideline 402

**Skin Corrosion/Irritation:** No skin irritation in rabbits. Method: OECD Test Guideline 404

**Serious Eye Irritation/ Eye Irritation:** No eye irritation in rabbits. Method: OECD Test Guideline 405

**Skin Sensitization:** No skin sensitization in Guinea pigs. Buehler Test. Method: OECD Test Guideline 406

**Respiratory Sensitization:** Not classified based on available information.

**Germ Cell Mutagenicity:** Weight of evidence does not support classification as a germ cell mutagen.

**Carcinogenicity:** Not classified based on available information.

**Reproductive toxicity:** Weight of evidence does not support classification for reproductive toxicity.

**STOT-single exposure:** Inhalation (vapor): No significant health effects observed in animals at concentrations of 20mg/l/4h or less.

**STOT-repeated exposure:** Inhalation (vapor): No significant health effects observed in animals at concentrations of 1mg/l/6h/d or less.

**Aspiration toxicity:** No aspiration toxicity classification.

## **Trans-1,2-Dichloroethylene**

**Acute Oral:** LD50: 7902 mg/kg in rats. Method: OECD Test Guideline 420

**Acute Dermal:** LD50: > 5,000 mg/kg in rabbits. Method: OECD Test Guideline 402

**Acute Inhalation:** 4 hour LC50: 95.5 mg/l in rats. Test atmosphere: vapor. Method: OECD Test Guideline 403

**Skin Corrosion/Irritation:** Mild skin irritation in rabbits. Method: OECD Test Guideline 404

**Serious Eye Irritation/Eye Irritation:** Eye irritation in rabbits. Reversing within 7 days. Method: OECD Test Guideline 405

**Skin Sensitization:** Not classified based on available information.

**Respiratory Sensitization:** Not classified based on available information.

**Germ Cell Mutagenicity:** Evidence does not support classification of a germ cell mutagen.

**Carcinogenicity:** Not classified based on available information.

**Reproductive toxicity:** Test Type: Embryo-fetal development. Inhalation in rats. Negative. Method: OECD Test Guideline 414

**STOT-single exposure:** May cause drowsiness and dizziness.

**STOT-repeated exposure:** Inhalation: No significant health effects observed in animals at concentrations of 250 ppmV/6h/d or less.

**Aspiration toxicity:** Not classified based on available information.

## **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**

### **1,1,1,2,2,3,4,5,5,5-Decafluoropentane**

96 hour LC50 in Danio rerio (zebra fish): 13 mg/l. Method: OECD Test Guideline 203

48 hour EC50 in Daphnia magna (Water flea): 10.6 mg/l. Method: OECD Test Guideline 202

72 hour EC50 in Selenastrum capricornutum (Green algae): >120 mg/l. Method: OECD Test Guideline 201

21 days NOEC in Daphnia magna (Water flea): 1.72 mg/l. Method: OECD Test Guideline 211

**Biodegradability:** Not readily biodegradable. Method: OECD Test Guideline 301D

**Bioaccumulative potential:** Bioaccumulation is unlikely. Partition coefficient: noctanol/water: log Pow: 2.4 (75 °F / 24 °C)

**Mobility in soil:** No data available

### **Trans-1,2-Dichloroethylene**

96 hour LC50 in Lepomis marochirus (Bluegill sunfish): 135 mg/l. Based on data similar materials  
48 hour EC50 in Daphnia magna (Water flea): 220 mg/l. Method: EPA-660/3-75-009  
48 hour EbC50 in Pseudokirchneriella subcapitata (Green algae): 36.36 mg/l. Method: OECD Test Guideline 201

**Biodegradability:** Not readily biodegradable. Method: OECD Test Guideline 301D

**Bioaccumulative potential:** Partition coefficient: n-octanol/water: log Pow: 2.06

**Mobility in soil:** No data available

### **Isopropyl Alcohol**

**Toxicity to fish:** 96 hour LC50 in Pimephales promelas (fathead minnow): 9,640 mg/l

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

**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**

If recycling is not practicable, dispose of in compliance with local regulations. Remove to a permitted waste disposal facility. The product should not be allowed to enter drains, water courses or the soil.

## **14. TRANSPORT INFORMATION**

### **U.S. DOT**

Not Regulated

### **IATA**

Not Regulated

### **IMDG**

Not Regulated

## **15. REGULATORY INFORMATION**

### **U.S. Federal Regulations**

**TSCA:** All ingredients are listed in TSCA inventory.

1,1,1,2,2,3,4,5,5,5-Decafluoropentane (CAS# 138495-42-8) - The United States Environmental Protection Agency has established a Significant New Use Rule (SNUR; 40 CFR 721.5645) for this product. This product contains one or more substances which requires export notification under TSCA Section 12(b) and 40 CFR Part 707 Subpart D.

**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:** Serious eye damage or eye irritation. Specific target organ toxicity (single or repeated exposure)

**SARA 313:** This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

#### **State Regulations (U.S.)**

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

### **16. OTHER INFORMATION**

#### **NPCA-HMIS Ratings:**

Health - 1

Flammability - 0

Reactivity - 1

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

#### **FOR INDUSTRIAL USE ONLY**

#### **REVISION DATE: JULY 31, 2023**

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.