

## SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: **SF-4200-ISO**  
CHEMICAL FAMILY NAME: Aromatic Isocyanates  
U.N. NUMBER: None  
U.N. DANGEROUS GOODS CLASS: Non-Regulated Material  
SUPPLIER/MANUFACTURER'S NAME: **Progressive Materials, LLC**  
ADDRESS: 540 Central Court, New Albany, IN 47150 USA  
EMERGENCY PHONE: **TOLL-FREE in USA/Canada - Chemtrec** 1-800-424-9300  
**National Poison Control Center (U.S.)** 1-800-222-1222  
BUSINESS PHONE: 812-944-7803 (Product Information)  
WEB SITE: [www.pmsilicone.com](http://www.pmsilicone.com)  
DATE OF CURRENT REVISION: February 19, 2015  
DATE OF LAST REVISION: February 25, 2013

## SECTION 2 - HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW:

**Product Description:** This product is a dark amber liquid with a slight odor.

**Health Hazards:** Exposure to the product may cause skin, respiratory and eye irritation. Prolonged exposure may cause skin or respiratory sensitization. Ingestion of this product may cause gastrointestinal irritation.

**Flammability Hazards:** This product is flammable with a flash point 428°F (220°C) Open Cup.

**Reactivity Hazards:** None known.

**Environmental Hazards:** The environmental effects of this product have not been investigated; however it is not expected to cause significant adverse effects in the environment.

**Emergency Considerations:** Emergency responders must wear the proper personal protective equipment (and have appropriate fire-suppression equipment) suitable for the situation to which they are responding.

US DOT SYMBOLS

**Non-Regulated Material**

CANADA (WHMIS) SYMBOLS



EUROPEAN and (GHS) Hazard Symbols



Signal Word: **Danger!**

### GHS CLASSIFICATION OF SUBSTANCE OR MIXTURE IN ACCORDANCE WITH 29 CFR 1200 (OSHA HCS) AND THE EUROPEAN UNION DIRECTIVES:

This product does meet the definition of a hazardous substance or preparation as defined by 29 CFR 1910. 1200 AND the European Union Council Directives 67/548/EEC, 1999/45/EC, 1272/2008/EC and subsequent Directives.

#### **EU HAZARD CLASSIFICATION OF INGREDIENTS PER DIRECTIVE 1272/2008/EC:**

CAS# 9016-87-9 This substance is not listed in ESIS

EC# 202-966-0 Annex I Index# 615-005-00-9

EC# 247-714-0 Annex I Index# 615-005-00-9

Substances not listed either individually or in group entries must be self classified

#### **Component(s) Contributing to Classification(s)**

P-MDI, Diphenylmethane-4,4'-diisocyanate, MDI Mixed Isomers

#### **GHS Hazard Classification(s):**

Acute Inhalation Toxicity Category 4

Eye Irritant Category 2

STOT SE Category 3

Skin Irritant Category 2

Respiratory Sensitizer Category 1

Skin Sensitizer Category 1

**Hazard Statement(s):**

H332: Harmful if inhaled  
 H319: Causes serious eye irritation  
 H335: May cause respiratory irritation  
 H315: Causes skin irritation  
 H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled  
 H317: May cause an allergic skin reaction

**Precautionary Statement(s):**

P264: Wash hands thoroughly after handling  
 P270: Do not eat, drink or smoke when using this product  
 P280: Wear protective gloves/protective clothing/eye protection/face protection

**HEALTH HAZARDS OR RISKS FROM EXPOSURE:**

**ACUTE:** This material may cause irritation to skin, respiratory system and eyes. Prolonged exposure may cause skin and respiratory sensitization. Ingestion of this product may cause gastrointestinal irritation.

**CHRONIC:** The isocyanate component is a respiratory sensitizer. It may cause allergic reaction leading to asthma-like spasms of the bronchial tubes and difficulty in breathing. Medical supervision of all employees who handle or come into contact with isocyanates is recommended.

**TARGET ORGANS:** ACUTE: Eye, Skin, Respiratory System      CHRONIC: Skin, Respiratory System

## SECTION 3 - COMPOSITION and INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS:	CAS #	EINECS #	ICSC #	WT %	HAZARD CLASSIFICATION; RISK PHRASES
P-MDI	9016-87-9	Not Listed in ESIS	Not Listed	45 – 55%	HAZARD CLASSIFICATION: [Xi] Irritant RISK PHRASES: R36/37/38
Diphenylmethane-4,4'-diisocyanate	101-68-8	202-966-0	0298	30 – 40%	HAZARD CLASSIFICATION: Carc. Cat 3, [Xn] Harmful, [Xi] Irritant RISK PHRASES: R40, R20, R48/20, R36/37/38, R42/43
MDI Mixed Isomers	26447-40-5	247-714-0	Not Listed	1 – 10%	HAZARD CLASSIFICATION: Carc. Cat 3, [Xn] Harmful, [Xi] Irritant RISK PHRASES: R40, R20, R48/20, R36/37/38, R42/43
Balance of other ingredients are non-hazardous or less than 1% in concentration (or 0.1% for carcinogens, reproductive toxins, or respiratory sensitizers).					

**NOTE:** ALL WHMIS required information is included in appropriate sections based on the ANSI Z400.1-2010 format. This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR, EU Directives and the Japanese Industrial Standard *JIS Z 7250: 2000*.

## SECTION 4 - FIRST-AID MEASURES

**EYE CONTACT:** If product enters the eyes, open eyes while under gentle running water for at least 15 minutes. Seek medical attention.

**SKIN CONTACT:** Wash skin thoroughly after handling. Seek medical attention if irritation develops and persists. Remove contaminated clothing. Launder contaminated clothing before re-use.

**INHALATION:** If breathing becomes difficult, remove victim to fresh air. If necessary, use artificial respiration to support vital functions. Seek medical attention.

**INGESTION:** If product is swallowed, call physician or poison control center for most current information. If professional advice is not available, do not induce vomiting. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or who cannot swallow. Seek medical advice. Take a copy of the label and/or MSDS with the victim to the health professional.

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:** Pre-existing skin, respiratory or eye problems may be aggravated by exposure to this product.

**RECOMMENDATIONS TO PHYSICIANS:** Treat symptoms and reduce over-exposure

## SECTION 5 - FIRE-FIGHTING MEASURES

**FLASH POINT:** 428°F (220°C) Open Cup  
**AUTOIGNITION TEMPERATURE:** Not Established

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**FLAMMABLE LIMITS (in air by volume, %):** Lower (LEL): Not Established Upper (UEL): Not Established

**FIRE EXTINGUISHING MATERIALS:** Carbon dioxide, foam, dry chemical, halon, water spray, sand, limestone powder.

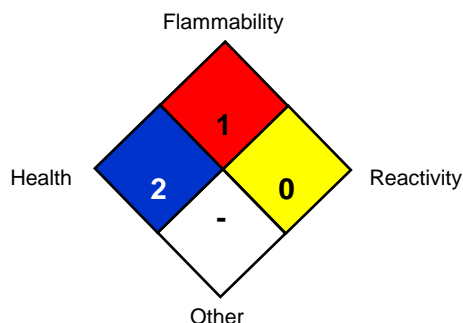
**UNUSUAL FIRE AND EXPLOSION HAZARDS:** This material is flammable above flash point shown above.

Explosion Sensitivity to Mechanical Impact: Not Sensitive.



Explosion Sensitivity to Static Discharge: Not Sensitive

**SPECIAL FIRE-FIGHTING PROCEDURES:** Incipient fire responders should wear eye protection. Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. Isolate materials not yet involved in the fire and protect personnel. Move containers from fire area if this can be done without risk; otherwise, cool with carefully applied water spray. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas.

### NFPA RATING SYSTEM



### HMIS RATING SYSTEM

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM				
HEALTH HAZARD (BLUE)			2	
FLAMMABILITY HAZARD (RED)			1	
PHYSICAL HAZARD (YELLOW)			1	
PROTECTIVE EQUIPMENT				
EYES	RESPIRATORY	HANDS	BODY	
	See Sect 8		See Sect 8	
For Routine Industrial Use and Handling Applications				

**Hazard Scale:** 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe \* = Chronic hazard

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

**SPILL AND LEAK RESPONSE:** Personnel should be trained for spill response operations.

**SPILLS:** Contain spill if safe to do so. Prevent entry into drains, sewers, and other waterways. Soak up with a non-combustible absorbent material and place in an appropriate container for disposal. Dispose of in accordance with applicable Federal, State, and local procedures (see Section 13, Disposal Considerations).

## SECTION 7 - HANDLING and STORAGE

**WORK PRACTICES AND HYGIENE PRACTICES:** As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash thoroughly after handling this product. Do not eat, drink, smoke, or apply cosmetics while handling this product. Avoid breathing vapors/mists generated by this product. Use in a well-ventilated location. Remove contaminated clothing immediately.

**STORAGE AND HANDLING PRACTICES:** Keep container tightly closed and in a dry and cool place.

## SECTION 8 - EXPOSURE CONTROLS - PERSONAL PROTECTION

### EXPOSURE LIMITS/GUIDELINES:

Chemical Name	CAS#	ACGIH TWA	OSHA TWA	WEEL
P-MDI	9016-87-9	Not Listed	Not Listed	Not Listed
Diphenylmethane-4,4'-diisocyanate	101-68-8	0.05 mg/m <sup>3</sup>	0.2 mg/m <sup>3</sup>	0.05 mg/m <sup>3</sup>
MDI Mixed Isomers	26447-40-5	Not Listed	Not Listed	Not Listed

Currently, International exposure limits are not established for the components of this product. Please check with competent authority in each country for the most recent limits in place.

**VENTILATION AND ENGINEERING CONTROLS:** Use with adequate ventilation to ensure exposure levels are maintained below the limits provided above. Use local exhaust ventilation to control airborne vapor. Ensure eyewash/safety shower stations are available near areas where this product is used.

*The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132) or equivalent standard of Canada, or standards of EU member states (including EN 149 for respiratory PPE, and EN 166 for face/eye protection), and those of Japan. Please reference applicable regulations and standards for relevant details.*

**RESPIRATORY PROTECTION:** Maintain airborne contaminant concentrations below guidelines listed above, if applicable.

If necessary, use only respiratory protection authorized in the U.S. Federal OSHA Respiratory Protection Standard (29 CFR 1910.134), equivalent U.S. State standards, Canadian CSA Standard Z94.4-93, the European Standard EN149, or EU member states.

**EYE PROTECTION:** Safety glasses or chemical goggles as appropriate to prevent eye contact. If necessary, refer to U.S. OSHA 29 CFR 1910.133 or appropriate Canadian Standards.

**HAND PROTECTION:** Use chemical resistant gloves to prevent skin contact. If necessary, refer to U.S. OSHA 29 CFR 1910.138 or appropriate Standards of Canada.

**BODY PROTECTION:** Use body protection appropriate to prevent contact (e.g. lab coat, overalls). If necessary, refer to appropriate Standards of Canada, or appropriate Standards of the EU, Australian Standards, or relevant Japanese Standards.

## SECTION 9 - PHYSICAL and CHEMICAL PROPERTIES

<b>PHYSICAL STATE:</b>	Liquid
<b>APPEARANCE &amp; ODOR:</b>	Dark amber liquid with a slight aromatic odor.
<b>ODOR THRESHOLD (PPM):</b>	Not Available
<b>VAPOR PRESSURE (mmHg):</b>	0.00016 mmHg
<b>DENSITY:</b>	1.22 g/cm <sup>3</sup>
<b>EVAPORATION RATE (nBuAc = 1):</b>	Not Available
<b>BOILING POINT (C°):</b>	200°C
<b>FREEZING POINT (C°):</b>	3°C
<b>pH:</b>	Not Applicable
<b>VISCOSITY, Dynamic</b>	200 mPa.s
<b>SOLUBILITY IN WATER (%)</b>	Reacts with water

## SECTION 10 - STABILITY and REACTIVITY

**STABILITY:** Product is stable

**DECOMPOSITION PRODUCTS:** When heated to decomposition this product produces carbon monoxide, hydrogen cyanide, nitrogen oxides, aromatic isocyanates, gases/vapours

**MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE:** Water, alcohols, strong bases, Substances/products that react with isocyanates.

**HAZARDOUS POLYMERIZATION:** Will not occur.

**CONDITIONS TO AVOID:** Avoid moisture.

**NOTE:** Reacts with water, with formation of carbon dioxide. Risk of bursting. Reacts with alcohols. Reacts with acids. Reacts with alkalis. Reacts with amines. Risk of exothermic reaction. Risk of violent reaction. Risk of polymerization. Contact with certain rubbers and plastics can cause brittleness of the substance/product with subsequent loss in strength.

## SECTION 11 - TOXICOLOGICAL INFORMATION

**TOXICITY DATA:** Toxicity data is not available for this product:

Information on: MDI Assessment of acute toxicity: Of moderate toxicity after short-term inhalation. Virtually nontoxic after a single ingestion. Virtually nontoxic after a single skin contact.

Oral LD50 rat: > 10,000 mg/kg Practically nontoxic.

Inhalation LC50 rat: > 2.240 mg/l Exposure time: 1 h Moderately toxic.

Irritation / corrosion

Information on: MDI

Assessment of irritating effects: Irritating to eyes, respiratory system and skin.

Sensitization

Information on: MDI

Assessment of sensitization: The substance may cause sensitization of the respiratory tract. Sensitization after skin contact possible. Studies in animals suggest that dermal exposure may lead to pulmonary sensitization. However, the relevance of this result for humans is unclear.

**SUSPECTED CANCER AGENT:** None of the ingredients are found on the following lists: FEDERAL OSHA Z LIST, NTP, CAL/OSHA, IARC and therefore are not considered to be, nor suspected to be a cancer-causing agent by these agencies.

EU considers this material a possible carcinogen based on animal tests. However the relevance of this result for humans is unclear.

**IRRITANCY OF PRODUCT:** Contact with this product can be irritating to exposed skin respiratory system and eyes.

**SENSITIZATION OF PRODUCT:** This product is considered a skin and respiratory sensitizer.

**REPRODUCTIVE TOXICITY INFORMATION:** No reported information concerning the effects of this product and its components on the human reproductive system.

**SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE:** Skin, Eyes and Respiratory System

**SPECIFIC TARGET ORGAN TOXICITY – REPEATED EXPOSURE:** Skin and Respiratory System

**ASPIRATION HAZARD:** None

## SECTION 12 - ECOLOGICAL INFORMATION

**ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.**

**ENVIRONMENTAL STABILITY:** No specific data is available for this product, however this product is not expected to be readily biodegradable

**EFFECT OF MATERIAL ON PLANTS or ANIMALS:** No specific data is currently available on this product's effects on plants or animals.

**EFFECT OF CHEMICAL ON AQUATIC LIFE:** No specific data is currently available on this product's effects on aquatic life, however release of this product is not expected to cause long term adverse effects on the aquatic environment.

## SECTION 13 - DISPOSAL CONSIDERATIONS

**PREPARING WASTES FOR DISPOSAL:** Waste disposal must be in accordance with appropriate Federal, State, and local regulations, those of Canada, Australia, EU Member States and Japan.

**RCRA WASTE CODE:** None listed

**EU WASTE CODE:** Not Listed

## SECTION 14 - TRANSPORTATION INFORMATION

**US DOT; IATA; IMO; ADR:**

**THIS PRODUCT IS NOT CLASSIFIED AS DANGEROUS GOODS AS DEFINED BY 49 CFR 172.101 BY THE U.S. DEPARTMENT OF TRANSPORTATION.**

**PROPER SHIPPING NAME:** Non-Regulated Material

**HAZARD CLASS NUMBER and DESCRIPTION:** None

**UN IDENTIFICATION NUMBER:** None

**PACKING GROUP:** None

**DOT LABEL(S) REQUIRED:** None

**NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER (2004):** None

**MARINE POLLUTANT:** This products ingredients that are not classified by the DOT as a Marine Pollutant (as defined by 49 CFR 172.101, Appendix B)

**TRANSPORT CANADA, TRANSPORTATION OF DANGEROUS GOODS REGULATIONS:**

This product is not classified as Dangerous Goods, per regulations of Transport Canada.

INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA):

This product is not classified as Dangerous Goods, by rules of IATA:

INTERNATIONAL MARITIME ORGANIZATION (IMO) DESIGNATION:

This product is not classified as Dangerous Goods by the International Maritime Organization.

EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD

(ADR):

This product is not classified by the United Nations Economic Commission for Europe to be dangerous goods.

Harmonized Tariff Code      Unknown

## SECTION 15 - REGULATORY INFORMATION

**UNITED STATES REGULATIONS**

**SARA REPORTING REQUIREMENTS:** This product is subject to the reporting requirements of Sections 302, 304 and 313 of Title III of the Superfund Amendments and Reauthorization Act., as follows:

**SARA 313 REPORTING:** Diisocyanates Compound Category

**TSCA:** All components in this product are listed on the US Toxic Substances Control Act (TSCA) inventory of chemicals.

**SARA 311/312:**

Acute    Yes                      Chronic Health:    No                      Fire:    Yes                      Reactivity:    No  
Health:

**U.S. SARA THRESHOLD PLANNING QUANTITY:** There are no specific Threshold Planning Quantities for this product. The default Federal MSDS submission and inventory requirement filing threshold of 10,000 lb (4,540 kg) may apply, per 40 CFR 370.20.

**U.S. CERCLA REPORTABLE QUANTITY (RQ):** Diphenylmethane-4,4'-diisocyanate (MDI)CAS# 101-68-8 5,000 Lbs.

**CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65):** None of the ingredients are on the California Proposition 65 lists above the threshold levels.

**CANADIAN REGULATIONS:**

**CANADIAN DSL/NDSL INVENTORY STATUS:**All of the components of this product are on the DSL Inventory

**CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) PRIORITIES SUBSTANCES LISTS:** No component of this product is on the CEPA First Priorities Substance Lists.

**CANADIAN WHMIS CLASSIFICATION and SYMBOLS:** This product is categorized as a Class D Division 2B Materials causing other toxic effects, as per the Controlled Product Regulations.

**EUROPEAN ECONOMIC COMMUNITY INFORMATION:**

**EU LABELING AND CLASSIFICATION:**

**Classification of the mixture according to Regulation (EC) No1272/2008. See section 2 for details.**

**AUSTRALIAN INFORMATION FOR PRODUCT:**

**AUSTRALIAN INVENTORY OF CHEMICAL SUBSTANCES (AICS) STATUS:** All components of this product are listed or exempt from listing on the AICS.

**STANDARD FOR THE UNIFORM SCHEDULING OF DRUGS AND POISONS:** Not applicable.

**JAPANESE INFORMATION FOR PRODUCT:**

**JAPANESE MINISTER OF INTERNATIONAL TRADE AND INDUSTRY (MITI) STATUS:** The components of this product are not listed as Class I Specified Chemical Substances, Class II Specified Chemical Substances, or Designated Chemical Substances by the Japanese MITI.

**INTERNATIONAL CHEMICAL INVENTORIES:**

Listing of the components on individual country Chemical Inventories is as follows:

Asia-Pac:	Listed
Australian Inventory of Chemical Substances (AICS):	Listed
Korean Existing Chemicals List (ECL):	Listed
Japanese Existing National Inventory of Chemical Substances (ENCS):	Listed
Philippines Inventory of Chemicals and Chemical Substances (PICCS):	Listed
Swiss Giftlist List of Toxic Substances:	Listed



# SAFETY DATA SHEET

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U.S. TSCA:

Listed

## SECTION 16 - OTHER INFORMATION

**PREPARED BY:** Paul Eigbrett

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