



# SAFETY DATA SHEET

## THE DOW CHEMICAL COMPANY

**Product name:** NORDEL™ IP 4570 Hydrocarbon Rubber

**Issue Date:** 03/31/2023

**Print Date:** 04/01/2023

THE DOW CHEMICAL COMPANY encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

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## 1. IDENTIFICATION

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**Product name:** NORDEL™ IP 4570 Hydrocarbon Rubber

### **Recommended use of the chemical and restrictions on use**

**Identified uses:** A polymer -- For industrial conversion as a raw material for manufacture of articles or goods.

### **COMPANY IDENTIFICATION**

THE DOW CHEMICAL COMPANY  
2211 H.H. DOW WAY  
MIDLAND MI 48674  
UNITED STATES

**Customer Information Number:**

800-258-2436  
SDSQuestion@dow.com

### **EMERGENCY TELEPHONE NUMBER**

**24-Hour Emergency Contact:** CHEMTREC +1 800-424-9300

**Local Emergency Contact:** 800-424-9300

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## 2. HAZARDS IDENTIFICATION

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### **Hazard classification**

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)  
Combustible dust

### **Label elements**

Signal word: **WARNING!**

### **Hazards**

If small particles are generated during further processing, handling or by other means, may form combustible dust concentrations in air.

### **Other hazards**

Slipping hazard.

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

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This product is a mixture.

Component	CASRN	Concentration
Ethylene-propylene-ethylidenenorbornene terpolymer	25038-36-2	> 99.0 - <= 100.0 %
ETHYLIDENE-2-NORBORNENE	16219-75-3	> 0.005 - <= 0.016 %

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### 4. FIRST AID MEASURES

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#### Description of first aid measures

##### General advice:

First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

**Inhalation:** Move person to fresh air and keep comfortable for breathing; consult a physician.

**Skin contact:** Wash off with plenty of water. Seek first aid or medical attention as needed. If molten material comes in contact with the skin, do not apply ice but cool under ice water or running stream of water. DO NOT attempt to remove the material from skin. Removal could result in severe tissue damage. Seek medical attention immediately. Suitable emergency safety shower facility should be immediately available.

**Eye contact:** Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

**Ingestion:** If swallowed, seek medical attention. May cause gastrointestinal blockage. Do not give laxatives. Do not induce vomiting unless directed to do so by medical personnel.

##### Most important symptoms and effects, both acute and delayed:

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

##### Indication of any immediate medical attention and special treatment needed

**Notes to physician:** If burn is present, treat as any thermal burn, after decontamination. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

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### 5. FIREFIGHTING MEASURES

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#### Extinguishing media

**Suitable extinguishing media:** Water fog or fine spray.. Dry chemical fire extinguishers.. Carbon dioxide fire extinguishers.. Foam..

**Unsuitable extinguishing media:** No data available

### Special hazards arising from the substance or mixture

**Hazardous combustion products:** Carbon oxides.

**Unusual Fire and Explosion Hazards:** No data available

### Advice for firefighters

**Fire Fighting Procedures:** Keep people away. Isolate fire and deny unnecessary entry.. Soak thoroughly with water to cool and prevent re-ignition.. If material is molten, do not apply direct waterstream. Use fine water spray or foam.. Cool surroundings with water to localize fire zone.. Hand held dry chemical or carbon dioxide extinguishers may be used for small fires..

**Special protective equipment for firefighters:** Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves).. If protective equipment is not available or not used, fight fire from a protected location or safe distance..

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## 6. ACCIDENTAL RELEASE MEASURES

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**Personal precautions, protective equipment and emergency procedures:** Spilled material may cause a slipping hazard. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

**Environmental precautions:** Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

**Methods and materials for containment and cleaning up:** Contain spilled material if possible. Sweep up. Collect in suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

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## 7. HANDLING AND STORAGE

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**Precautions for safe handling:** Use with adequate ventilation. No smoking, open flames or sources of ignition in handling and storage area. Good housekeeping and controlling of dusts are necessary for safe handling of product. Pneumatic conveying and other mechanical handling operations can generate combustible dust. To reduce the potential for dust explosions, electrically bond and ground equipment and do not permit dust to accumulate. Dust can be ignited by static discharge. Do not get molten material in eyes, on skin or clothing. Avoid breathing process fumes. Workers should be protected from the possibility of contact with molten resin. When appropriate, unique handling information for containers can be found on the product label. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

**Conditions for safe storage:** Store in accordance with good manufacturing practices.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Component	Regulation	Type of listing	Value
ETHYLIDENE-2-NORBORNENE	ACGIH	TWA	2 ppm
	ACGIH	STEL	4 ppm

### Exposure controls

**Engineering controls:** Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

### Individual protection measures

**Eye/face protection:** Use safety glasses (with side shields). If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles. If exposure causes eye discomfort, use a full-face respirator.

#### Skin protection

**Hand protection:** Chemical protective gloves should not be needed when handling this material. Consistent with general hygienic practice for any material, skin contact should be minimized. Use gloves to protect from mechanical injury. Selection of gloves will depend on the task. Use gloves with insulation for thermal protection, when needed.

**Other protection:** No precautions other than clean body-covering clothing should be needed.

**Respiratory protection:** Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. Use an approved air-purifying respirator when vapors are generated at increased temperatures or when dust or mist is present.

The following should be effective types of air-purifying respirators: When dust/mist are present use a/an Particulate filter. When combinations of vapors, acids, or dusts/mists are present use a/an Organic vapor cartridge with a particulate pre-filter.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Physical state	Bales
Color	Translucent
Odor	Odorless
Odor Threshold	No test data available
pH	Not applicable, substance/mixture is non-soluble (in water)
Melting point/range	No test data available
Freezing point	Not applicable

<b>Boiling point (760 mmHg)</b>	Not applicable
<b>Flash point</b>	<b>closed cup</b> Not applicable
<b>Evaporation Rate (Butyl Acetate = 1)</b>	Not applicable
<b>Flammability (solid, gas)</b>	May form combustible dust concentrations in air during processing, handling or other means.
<b>Flammability (liquids)</b>	Not applicable
<b>Lower explosion limit</b>	Not applicable
<b>Upper explosion limit</b>	Not applicable
<b>Vapor Pressure</b>	Not applicable
<b>Relative Vapor Density (air = 1)</b>	Not applicable
<b>Relative Density (water = 1)</b>	0.84 - 0.9 <i>ASTM D 297</i>
<b>Water solubility</b>	negligible
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Auto-ignition temperature</b>	No test data available
<b>Decomposition temperature</b>	No test data available
<b>Kinematic Viscosity</b>	Not applicable
<b>Explosive properties</b>	No test data available
<b>Oxidizing properties</b>	No test data available
<b>Molecular weight</b>	Not determined

NOTE: The physical data presented above are typical values and should not be construed as a specification.

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## 10. STABILITY AND REACTIVITY

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**Reactivity:** No data available

**Chemical stability:** Stable under recommended storage conditions. See Storage, Section 7.

**Possibility of hazardous reactions:** Polymerization will not occur.

**Conditions to avoid:** Avoid temperatures above 240°C (464°F) Exposure to elevated temperatures can cause product to decompose. Avoid direct sunlight.

**Incompatible materials:** None known.

**Hazardous decomposition products:**

Decomposition products can include and are not limited to: Carbon monoxide. Hydrocarbons. Organic acids. Aldehydes. Acrolein. Alcohols. Ketones.

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## 11. TOXICOLOGICAL INFORMATION

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*Toxicological information appears in this section when such data are available.*

**Information on likely routes of exposure**

Ingestion, Skin contact, Eye contact.

**Acute toxicity (represents short term exposures with immediate effects - no chronic/delayed effects known unless otherwise noted)**

**Acute Toxicity Endpoints:**

Not classified based on available information.

**Acute oral toxicity**

**Information for the Product:**

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts. May cause choking if swallowed.

Single dose oral LD50 has not been determined.

Typical for this family of materials.  
LD50, Rat, > 5,000 mg/kg Estimated.

**Information for components:**

**Ethylene-propylene-ethylidenenorbornene terpolymer**

LD50, Rat, > 3,000 mg/kg

**ETHYLIDENE-2-NORBORNENE**

LD50, Rat, 2,276 - 5,078 mg/kg

**Acute dermal toxicity**

**Information for the Product:**

No adverse effects anticipated by skin absorption.

The dermal LD50 has not been determined.

Typical for this family of materials.  
LD50, Rabbit, > 2,000 mg/kg Estimated.

**Information for components:**

**Ethylene-propylene-ethylidenenorbornene terpolymer**

The dermal LD50 has not been determined.

**ETHYLIDENE-2-NORBORNENE**

LD50, Rabbit, > 5,078 mg/kg

**Acute inhalation toxicity**

**Information for the Product:**

No adverse effects are anticipated from single exposure to dust. Vapors released during thermal processing may cause respiratory irritation.

The LC50 has not been determined.,

**Information for components:**

**Ethylene-propylene-ethylidenenorbornene terpolymer**

LC50, Rat, dust/mist, > 5 mg/l

**ETHYLIDENE-2-NORBORNENE**

LC50, Rat, female, 4 Hour, vapour, 15.1 mg/l

LC50, Rat, male, 4 Hour, vapour, 13.5 mg/l

**Skin corrosion/irritation**

Not classified based on available information.

**Information for the Product:**

Typical for this family of materials.

Prolonged contact is essentially nonirritating to skin.

Mechanical injury only.

Under normal processing conditions, material is heated to elevated temperatures; contact with the material may cause thermal burns.

**Information for components:**

**Ethylene-propylene-ethylidenenorbornene terpolymer**

Prolonged contact is essentially nonirritating to skin.

**ETHYLIDENE-2-NORBORNENE**

Brief contact may cause moderate skin irritation with local redness.

Prolonged contact may cause severe skin irritation with local redness and discomfort.

**Serious eye damage/eye irritation**

Not classified based on available information.

**Information for the Product:**

Typical for this family of materials.

Solid or dust may cause irritation or corneal injury due to mechanical action.

Elevated temperatures may generate vapor levels sufficient to cause eye irritation. Effects may include discomfort and redness.

**Information for components:**

**Ethylene-propylene-ethylidenenorbornene terpolymer**

Essentially nonirritating to eyes.

**ETHYLIDENE-2-NORBORNENE**

May cause moderate eye irritation.

May cause slight corneal injury.

Vapor may cause eye irritation experienced as mild discomfort and redness.

**Sensitization**

**For skin sensitization:**

Not classified based on available information.

**For respiratory sensitization:**

Not classified based on available information.

**Information for the Product:**

For respiratory sensitization:  
No relevant data found.

For skin sensitization:  
No relevant data found.

**Information for components:**

**Ethylene-propylene-ethylidenenorbornene terpolymer**

For skin sensitization:  
No relevant data found.

For respiratory sensitization:  
No relevant data found.

**ETHYLIDENE-2-NORBORNENE**

Has demonstrated the potential for contact allergy in mice.

For respiratory sensitization:  
No relevant data found.

**Specific Target Organ Systemic Toxicity (Single Exposure)**

Not classified based on available information.

**Information for the Product:**

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

**Information for components:**

**Ethylene-propylene-ethylidenenorbornene terpolymer**

Available data are inadequate to determine single exposure specific target organ toxicity.

**ETHYLIDENE-2-NORBORNENE**

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

**Aspiration Hazard**

Not classified based on available information.

**Information for the Product:**

Based on physical properties, not likely to be an aspiration hazard.

**Information for components:**



**Ethylene-propylene-ethylidenenorbornene terpolymer**

Based on physical properties, not likely to be an aspiration hazard.

**ETHYLIDENE-2-NORBORNENE**

May be fatal if swallowed and enters airways.

**Chronic toxicity (represents longer term exposures with repeated dose resulting in chronic/delayed effects - no immediate effects known unless otherwise noted)**

**Specific Target Organ Systemic Toxicity (Repeated Exposure)**

Not classified based on available information.

**Information for the Product:**

Product test data not available.

**Information for components:**

**Ethylene-propylene-ethylidenenorbornene terpolymer**

No relevant data found.

**ETHYLIDENE-2-NORBORNENE**

In animals, effects have been reported on the following organs:

Kidney.

Liver.

Testes.

Thyroid.

**Carcinogenicity**

Not classified based on available information.

**Information for the Product:**

Product test data not available.

**Information for components:**

**Ethylene-propylene-ethylidenenorbornene terpolymer**

No relevant data found.

**ETHYLIDENE-2-NORBORNENE**

No relevant data found.

**Teratogenicity**

Not classified based on available information.

**Information for the Product:**

Product test data not available.

**Information for components:**

**Ethylene-propylene-ethylidenenorbornene terpolymer**

No relevant data found.

**ETHYLIDENE-2-NORBORNENE**

Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Did not cause birth defects in laboratory animals.

**Reproductive toxicity**

Not classified based on available information.

**Information for the Product:**

Product test data not available.

**Information for components:**

**Ethylene-propylene-ethylidenenorbornene terpolymer**

No relevant data found.

**ETHYLIDENE-2-NORBORNENE**

In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

**Mutagenicity**

Not classified based on available information.

**Information for the Product:**

Product test data not available.

**Information for components:**

**Ethylene-propylene-ethylidenenorbornene terpolymer**

No relevant data found.

**ETHYLIDENE-2-NORBORNENE**

In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

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**12. ECOLOGICAL INFORMATION**

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*Ecotoxicological information appears in this section when such data are available.*

**Toxicity**

**Acute toxicity to fish**

Not expected to be acutely toxic to aquatic organisms.

**Persistence and degradability**

**Biodegradability:** This water-insoluble polymeric solid is expected to be inert in the environment. Surface photodegradation is expected with exposure to sunlight. No appreciable biodegradation is expected.

**Bioaccumulative potential**

**Bioaccumulation:** No bioconcentration is expected because of the relatively high molecular weight (MW greater than 1000).

**Mobility in soil**

In the terrestrial environment, material is expected to remain in the soil where it may be subject to wind dispersion.

In the aquatic environment, material is expected to float.

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**13. DISPOSAL CONSIDERATIONS**

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**Disposal methods:** DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN SDS SECTION 1: Identified Uses. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Recycler. Reclaimer. Incinerator or other thermal destruction device. Landfill.

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**14. TRANSPORT INFORMATION**

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**DOT**

Not regulated for transport

**Classification for SEA transport (IMO-IMDG):**

Not regulated for transport

**Transport in bulk  
according to Annex I or II  
of MARPOL 73/78 and the  
IBC or IGC Code**

Consult IMO regulations before transporting ocean bulk

**Classification for AIR transport (IATA/ICAO):**

Not regulated for transport

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service

representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

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## 15. REGULATORY INFORMATION

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### Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

Combustible dust

### Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 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.

### Pennsylvania Worker and Community Right-To-Know Act:

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

### California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

### United States TSCA Inventory (TSCA)

All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

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## 16. OTHER INFORMATION

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### Revision

Identification Number: 99152560 / A001 / Issue Date: 03/31/2023 / Version: 9.0

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

### Legend

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
STEL	Short-term exposure limit
TWA	8-hour, time-weighted average

### Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule;

ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

#### **Information Source and References**

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

THE DOW CHEMICAL COMPANY urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

US

**NORDEL™ IP 4570 Hydrocarbon Rubber**

**WARNING**

**Hazards:** If small particles are generated during further processing, handling or by other means, may form combustible dust concentrations in air. **Supplemental information** Slipping hazard.

**Refer to the Safety Data Sheet before use.**

**COMPANY IDENTIFICATION**  
THE DOW CHEMICAL COMPANY  
2211 H.H. DOW WAY  
MIDLAND MI 48674  
UNITED STATES

**EMERGENCY TELEPHONE NUMBER**  
**24-Hour Emergency Contact:**  
CHEMTREC +1 800-424-9300  
**Local Emergency Contact:**  
800-424-9300

**Customer Information Number:**  
800-258-2436

