

NPR 5469

Version 2.1

Revision Date 12/15/2009

Ref. 150000002497

This SDS adheres to the standards and regulatory requirements of the United States and may not meet the regulatory requirements in other countries.

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : NPR 5469
Product Grade/Type : NPR 5469

MSDS Number : 150000002497
Product Use : Chemical intermediate

Manufacturer : DuPont Performance Elastomers L.L.C
Bellevue Park Corporate Center, 300 Bellevue Parkway
Wilmington, Delaware 19809

Product Information : 1-800-441-7515 (outside the U.S. 1-302-774-1000)
Medical Emergency : 1-800-441-3637 (outside the U.S. 1-302-774-1139)
Transport Emergency : CHEMTREC: 1-800-424-9300 (outside the U.S. 1-703-527-3887)

SECTION 2. HAZARDS IDENTIFICATION

Potential Health Effects

Skin

Tetrachloroethylene : May irritate skin.

2,3-Dichlorobuta-1,3-
diene : Causes skin irritation.

Eyes

Tetrachloroethylene : May irritate eyes.

2,3-Dichlorobuta-1,3-
diene : Causes eye irritation.

Inhalation

Tetrachloroethylene : Central nervous system effects dizziness, confusion, incoordination, drowsiness, or unconsciousness, Irregular cardiac activity.

2,3-Dichlorobuta-1,3-
diene : May cause irritation of respiratory tract. Severe shortness of breath, Symptoms may be delayed..

Ingestion

Tetrachloroethylene : Effects due to ingestion may include: Nausea, Headache, Weakness, Aspiration hazard if swallowed - can enter lungs and cause damage..

Repeated exposure

Tetrachloroethylene : Central nervous system effects Liver effects Kidney effects altered blood chemistry

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2,3-Dichlorobuta-1,3-
diene : Respiratory tract damage

Target Organs

Tetrachloroethylene : Central nervous system Liver Kidney Blood Spleen

2,3-Dichlorobuta-1,3-
diene : Lungs Liver Kidney Testes

Carcinogenicity
Material

IARC

NTP

OSHA

Tetrachloroethylene

2A

X

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Concentration
Tetrachloroethylene	127-18-4	>48%
2,3-Dichlorobuta-1,3-diene	1653-19-6	<50 %
1,2-Dichloro-1,3-butadiene	3574-40-1	<2 %

SECTION 4. FIRST AID MEASURES

- Skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician. Wash contaminated clothing before re-use. Discard contaminated shoes.
- Eye contact : Rinse thoroughly with plenty of water, also under the eyelids. Consult a physician.
- Inhalation : Move to fresh air. Consult a physician.
- Ingestion : If victim is conscious: Do not induce vomiting. Drink water. Call physician immediately.
- General advice : If symptoms persist, call a physician.
- Notes to physician : Activated charcoal may be beneficial.

SECTION 5. FIRE-FIGHTING MEASURES

Flammable Properties

Flash point : 28.9 °C (84.0 °F) closed cup

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- Fire and Explosion Hazard : Hazardous combustion products Hydrogen chloride Carbon dioxide (CO₂) Under conditions giving incomplete combustion, hazardous gases produced may consist of: Hydrogen chloride gas Carbon oxides Organic acids Aldehydes Alcohols
- Suitable extinguishing media : Foam, Carbon dioxide (CO₂), Dry chemical, Water spray
- Firefighting Instructions : Wear self-contained breathing apparatus and protective suit. Evacuate personnel to safe areas. Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6. ACCIDENTAL RELEASE MEASURES

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

- Safeguards (Personnel) : Wear self-contained breathing apparatus and protective suit.
- Spill Cleanup : Remove all sources of ignition. Dam up. Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).
- Accidental Release Measures : Prevent material from entering sewers, waterways, or low areas. Dispose of promptly.

SECTION 7. HANDLING AND STORAGE

- Handling (Personnel) : Use only in area provided with appropriate exhaust ventilation. Avoid contact with skin, eyes and clothing. Avoid breathing vapours or mist. Wash hands before breaks and immediately after handling the product. Regular cleaning of equipment, work area and clothing. When using do not eat, drink or smoke.
- Handling (Physical Aspects) : Keep away from heat and sources of ignition. Use non-sparking tools and grounded/bonded equipment and containers when transferring.
- Storage : Keep containers tightly closed in a cool, well-ventilated place. Keep away from heat, sparks and flames.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- Engineering controls : Use only in area provided with appropriate exhaust ventilation.

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Personal protective equipment

- Respiratory protection : Where there is potential for airborne exposures in excess of applicable limits, wear NIOSH approved respiratory protection.
- Eye protection : Wear safety glasses. Wear coverall chemical splash goggles and face shield when the possibility exists for eye and face contact due to splashing or spraying of material.
- Skin and body protection : Wear as appropriate:
Wear chemical resistant clothing to prevent ANY contact with this material such as gloves, aprons, boots, or whole body suit made of neoprene.

Exposure Guidelines

Exposure Limit Values

Hydrogen chloride (gas)

PEL (Permissible Exposure Limit)	(OSHA)	5 ppm	7 mg/m3	TLV-C
TLV	(ACGIH)	2 ppm	TLV-C	

Tetrachloroethylene

PEL (Permissible Exposure Limit)	(OSHA)	25 ppm	170 mg/m3	8 hr. TWA
PEL (Permissible Exposure Limit)	(OSHA)	100 ppm	TWA	
PEL (Permissible Exposure Limit)	(OSHA)	200 ppm	TLV-C	
PEL (Permissible Exposure Limit)	(OSHA)	300 ppm	MAX. CONC	
TLV	(ACGIH)	25 ppm	8 hr. TWA	
TLV	(ACGIH)	100 ppm	STEL	
TLV	(ACGIH)	25 ppm	TWA	
TLV	(ACGIH)	100 ppm	STEL	
AEL *	(DUPONT)	25 ppm	8 & 12 hr. TWA, Skin	

2,3-Dichlorobuta-1,3-diene

AEL *	(DUPONT)	2 ppm	8 & 12 hr. TWA
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* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Form : liquid
- Color : light yellow
- Odor : hydrocarbon-like
- Boiling point : ca. 102 °C (216 °F)
(for a component of this mixture)
- % Volatile : 100 %

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Density : 1.364 g/cm³
Water solubility : slightly soluble

SECTION 10. STABILITY AND REACTIVITY

Stability : This material readily polymerizes with the evolution of heat, particularly in the absence of polymerization inhibitors. This material readily dimerizes especially at elevated temperature. The dimerization reaction can not be prevented. However, the rate of dimerization can be reduced by dilution and/or low temperature (0 degree C) storage. See Product Bulletin "Safety and Handling of Dichlorobutadiene" (H71078) for additional handling information. Material can spontaneously polymerize by addition of oxidizing agents or peroxides or exposure to air.

Conditions to avoid : Heat, flames and sparks. Elevated temperature

Incompatibility : Peroxides Oxidizing agents Air Polymerization catalyst This material readily absorbs oxygen to form peroxides, which can decompose violently. They can also decompose to free radicals which can initiate polymerization.

Hazardous reactions : Polymerisation can occur.

SECTION 11. TOXICOLOGICAL INFORMATION

Tetrachloroethylene
Dermal LD50 : > 32,000 mg/kg, rabbit

Oral LD50 : 2,642 mg/kg, rat

Inhalation 4 h LC50 : 35 mg/l, rat

Skin irritation : Species: human irritant

Eye irritation : Species: human irritant

Skin sensitization : Not a skin sensitizer.

Repeated dose toxicity : Oral
Liver effects, Central nervous system effects

Inhalation
Central nervous system effects, Liver effects

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Carcinogenicity	:	Considered as a suspected human carcinogen according to the American Conference of Industrial Hygienists (ACGIH).
Mutagenicity	:	Did not cause genetic damage in cultured bacterial cells.
Reproductive toxicity	:	Evidence suggests the substance is not a reproductive toxin in animals.
Teratogenicity	:	Animal testing showed effects on embryo-foetal development at levels equal to or above those causing maternal toxicity.
2,3-Dichlorobuta-1,3-diene Oral LD50	:	222 mg/kg, rat
Inhalation 4 h LC50	:	2.08 mg/l, rat
Inhalation	:	Respiratory tract irritation Fluid retention in lungs (pulmonary oedema) Lung damage Liver damage Kidney damage
Skin irritation	:	Species: rabbit irritant
Eye irritation	:	Species: rabbit irritant
Repeated dose toxicity	:	Inhalation, rat No toxicologically significant effects were found.
Mutagenicity	:	Experiments showed mutagenic effects in cultured bacterial cells., Animal testing did not show any mutagenic effects.
Reproductive toxicity	:	Animal testing showed no reproductive toxicity.
Teratogenicity	:	Animal testing showed effects on embryo-foetal development at levels equal to or above those causing maternal toxicity.

SECTION 12. ECOLOGICAL INFORMATION

Aquatic Toxicity

Tetrachloroethylene

96 h LC50	:	Fish (unspecified species) 4 mg/l
72 h EC50	:	Algae 0.2 mg/l

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48 h EC50	:	Daphnia magna (Water flea) 8.5 mg/l
2,3-Dichlorobuta-1,3-diene 96 h LC50	:	Lepomis macrochirus (Bluegill sunfish) 70 mg/l
96 h LC50	:	Zebra fish 10.1 mg/l
72 h EC50	:	Algae > 2.1 mg/l
48 h EC50	:	Daphnia magna (Water flea) 1.5 mg/l
3 h Respiration inhibition	:	EC50 1,700 mg/l no data available

SECTION 13. DISPOSAL CONSIDERATIONS

Waste Disposal	:	Dispose of wastes in an approved waste disposal facility. Incinerate only in incinerators capable of scrubbing out acidic combustion products. Comply with applicable Federal, State/Provincial and Local Regulations.
Container Disposal	:	Refer to the product label for instructions.

SECTION 14. TRANSPORT INFORMATION

DOT	UN-Number	:	2929
	Proper shipping name	:	Toxic liquids, flammable, organic, n.o.s. (Dichlorobutadiene, Tetrachloroethylene)
	Class	:	6.1
	Packaging group	:	II
	Labelling No.	:	6.1 (3)
	Reportable Quantity	:	100 lbs (Tetrachloroethylene)
	Reportable Quantity	:	100 lbs (2,3-Dichlorobuta-1,3-diene)
IATA_C	UN-Number	:	2929
	Proper shipping name	:	Toxic liquid, flammable, organic, n.o.s. (Dichlorobutadiene, Tetrachloroethylene)
	Class	:	6.1
	Packaging group	:	II
	Labelling No.	:	6.1 (3)
IMDG	UN-Number	:	2929
	Proper shipping name	:	Toxic liquid, flammable, organic, n.o.s. (Dichlorobutadiene, Tetrachloroethylene)
	Class	:	6.1
	Packaging group	:	II
	Labelling No.	:	6.1 (3)
Marine pollutant			

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DOT/49 CFR only - Marine Pollutants are not regulated when shipped by ground in packagings with a capacity of not more than 450 liters (119 gallons).

SECTION 15. REGULATORY INFORMATION

- TSCA Status : In compliance with TSCA Inventory requirements for commercial purposes.
- SARA 313 Regulated Chemical(s) : Tetrachloroethylene
- CERCLA Reportable Quantity : 200 lbs
Based on the percentage composition of this chemical in the product.:
Tetrachloroethylene
- CERCLA Reportable Quantity : 212 lbs
Based on the percentage composition of this chemical in the product.: 2,3-Dichlorobuta-1,3-diene
- California Prop. 65 : WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.
Toluene
- WARNING! This product contains a chemical known to the State of California to cause cancer.
Tetrachloroethylene
- PA Right to Know Regulated Chemical(s) : Substances on the Pennsylvania Hazardous Substances List present at a concentration of 1% or more (0.01% for Special Hazardous Substances):
Tetrachloroethylene, 2,3-Dichlorobuta-1,3-diene
- NJ Right to Know Regulated Chemical(s) : Substances on the New Jersey Workplace Hazardous Substance List present at a concentration of 1% or more (0.1% for substances identified as carcinogens, mutagens or teratogens): Tetrachloroethylene, 2,3-Dichlorobuta-1,3-diene

SECTION 16. OTHER INFORMATION

- MSDS preparation date : 12/15/2009
- Restrictions for use : Do not use in medical applications involving permanent implantation in the human body. For other medical applications see DuPont Performance Elastomer's caution bulletin No. H-69237.

Before use read DuPont Performance Elastomer's safety information.

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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.

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