

NPR 5468

Version 2.1

Revision Date 05/21/2008

Ref. 150000002496

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 5468
Product Grade/Type	:	NPR 5468
MSDS Number	:	150000002496
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. 703-527-3887)

SECTION 2. HAZARDS IDENTIFICATION

Potential Health Effects

Skin

- | | | |
|----------------------------|---|---|
| 2,3-Dichloro-1,3-Butadiene | : | May cause skin irritation. |
| Xylene | : | May cause skin irritation. Drying of skin with itching, redness or rash |
| Ethylbenzene | : | Defatting of the skin Mild skin irritation |

Eyes

- | | | |
|----------------------------|---|---------------------------|
| 2,3-Dichloro-1,3-Butadiene | : | May cause eye irritation. |
| Xylene | : | May irritate eyes. |
| Ethylbenzene | : | Eye irritation |

Inhalation

- | | | |
|----------------------------|---|--|
| 2,3-Dichloro-1,3-Butadiene | : | May cause irritation of respiratory tract. Cough, Breathing difficulties, Severe shortness of breath, Lung damage, Liver damage, Kidney damage, Respiratory tract damage. |
| Xylene | : | May cause respiratory tract irritation. Headache, Nausea, Weakness, Central nervous system depression, dizziness, confusion, incoordination, drowsiness, or unconsciousness, cardiovascular system effects, Abnormal decrease in number of red blood cells (anaemia) which could produce tiredness, rapid heartbeat, dizziness, pale skin, leg cramps, shortness of breath, Liver effects, Kidney effects. |

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Ethylbenzene : May cause respiratory tract irritation.

Ingestion
Xylene : Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. Headache, Nausea, Vomiting, Central nervous system depression, dizziness, confusion, incoordination, drowsiness, or unconsciousness, Aspiration hazard if swallowed - can enter lungs and cause damage..

Ethylbenzene : nervous system effects such as dizziness, confusion, incoordination, drowsiness, or unconsciousness, Abnormal liver function, Abnormal kidney function, Gastrointestinal effects.

Target Organs
2,3-Dichloro-1,3-Butadiene : Lungs Liver Kidney Testes

Xylene : Central nervous system Liver Kidney Cardio-vascular system

Carcinogenicity Material	IARC	NTP	OSHA	ACGIH
Ethylbenzene	2B			A3

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Concentration
2,3-Dichloro-1,3-Butadiene	1653-19-6	>39%
Xylene	1330-20-7	<50 %
Ethylbenzene	100-41-4	<10 %
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.

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- 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 : 26.7 °C (80.1 °F) closed cup

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

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

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

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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.

Personal protective equipment

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 protection : Wear as appropriate: To prevent any contact, wear impervious clothing such as gloves, apron, boots, jacket, pants, hood or totally encapsulating chemical suit with breathing air supply.

Respiratory protection : Where there is potential for airborne exposures in excess of applicable limits, wear NIOSH/MSHA approved respiratory protection.

Exposure Guidelines

Exposure Limit Values

Hydrogen chloride (gas)

PEL	(OSHA)	5 ppm	7 mg/m ³	Ceiling
TLV	(ACGIH)	2 ppm	Ceiling	

2,3-Dichloro-1,3-Butadiene

AEL *	(DUPONT)	2 ppm	8 & 12 hr. TWA	
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Xylene

PEL	(OSHA)	100 ppm	435 mg/m ³	8 hr. TWA
TLV	(ACGIH)	150 ppm	STEL	
TLV	(ACGIH)	100 ppm	TWA	
AEL *	(DUPONT)	150 ppm	15 minute TWA	
AEL *	(DUPONT)	100 ppm	8 & 12 hr. TWA	

Ethylbenzene

PEL	(OSHA)	100 ppm	435 mg/m ³	8 hr. TWA
TLV	(ACGIH)	100 ppm	8 hr. TWA	
TLV	(ACGIH)	125 ppm	STEL	
AEL *	(DUPONT)	25 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 %
Density	: 1.007 g/cm ³
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.
Polymerization	: Polymerization can occur.

SECTION 11. TOXICOLOGICAL INFORMATION

2,3-Dichloro-1,3-Butadiene	
Oral LD50	: 222 mg/kg, rat
Inhalation 4 h LC50	: 414 ppm, rat
Inhalation	: Respiratory tract irritation Fluid retention in lungs (pulmonary oedema) Lung damage Liver damage Kidney damage

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Skin irritation	:	irritant
Eye irritation	:	irritant
Repeated dose toxicity	:	Inhalation Respiratory effects, Liver effects, Pathologic changes, Respiratory Tract
Mutagenicity	:	Experiments showed mutagenic effects in cultured bacterial cells., Animal testing did not show any mutagenic effects.
Toxicity to reproduction	:	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.

Xylene

Dermal ALD	:	4,320 mg/kg, animals (unspecified species)
Oral LD50	:	4,500 mg/kg, rat
Inhalation	:	animals (unspecified species) Respiratory tract irritation Incoordination Prostration Altered respiratory rate changes in blood pressure altered blood chemistry Tremors Lethargy Hyperactivity
Inhalation	:	human Central nervous system effects
Skin irritation	:	irritant
Eye irritation	:	irritant
Repeated dose toxicity	:	Inhalation Central nervous system effects Oral Liver effects, Kidney effects, Adverse body weight effects, Central nervous system effects
Carcinogenicity	:	Animal testing did not show any carcinogenic effects.

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Mutagenicity	:	Tests on bacterial or mammalian cell cultures did not show mutagenic effects., Evidence suggests this substance does not cause genetic damage in animals.
Toxicity to reproduction	:	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.
Ethylbenzene		
Dermal LD50	:	15,415 mg/kg, rabbit
Oral LD50	:	3,500 mg/kg, rat Kidney damage Liver damage
Inhalation 4 h LC50	:	17.4 mg/l, rat Altered respiratory rate narcosis
Skin irritation	:	Species: rabbit Moderate skin irritation
Eye irritation	:	Species: rabbit Eye irritation
Carcinogenicity	:	An increased incidence of tumours was observed in laboratory animals.
Mutagenicity	:	Tests on mammalian cell cultures showed mutagenic effects, Animal testing did not show any mutagenic effects., Did not cause genetic damage in cultured bacterial cells.
Toxicity to reproduction	:	Animal testing showed effects on reproduction that included, Reduced female fertility
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

2,3-Dichloro-1,3-Butadiene

96 h LC50	:	Lepomis macrochirus (Bluegill sunfish) 70 mg/l
96 h LC50	:	Zebra fish 10.1 mg/l

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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

Xylene
 96 h LC50 : Fathead minnow 24 - 42 mg/l

Ethylbenzene
 96 h LC50 : Pimephales promelas (fathead minnow) 48.5 mg/l

Environmental Fate

2,3-Dichloro-1,3-Butadiene
 Biodegradability : Not readily biodegradable.

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, Xylene)
	Class	: 6.1
	Packaging group	: II
	Labelling No.	: 6.1 (3)
IATA_C	Reportable Quantity	: 212 lbs (2,3-Dichloro-1,3-Butadiene)
	Reportable Quantity	: 253 lbs (Xylene)
	UN-Number	: 2929
	Proper shipping name	: Toxic liquid, flammable, organic, n.o.s. (Dichlorobutadiene, Xylene)
IMDG	Class	: 6.1
	Packaging group	: II
	Labelling No.	: 6.1 (3)
	UN-Number	: 2929
	Proper shipping name	: Toxic liquid, flammable, organic, n.o.s. (Dichlorobutadiene, Xylene)
	Class	: 6.1
	Packaging group	: II

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Labelling No. : 6.1 (3)

SECTION 15. REGULATORY INFORMATION

- TSCA Status : In compliance with TSCA Inventory requirements for commercial purposes.
- SARA 313 Regulated Chemical(s) : Xylene, Ethylbenzene
- CERCLA Reportable Quantity : 212 lbs
Based on the percentage composition of this chemical in the product.: 2,3-Dichloro-1,3-Butadiene
- CERCLA Reportable Quantity : 253 lbs
Based on the percentage composition of this chemical in the product.: Xylene
- California Prop. 65 : WARNING! This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.
Toluene

WARNING! This product contains a chemical known in the State of California to cause cancer.
Ethylbenzene
- 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): 2,3-Dichloro-1,3-Butadiene, Xylene, Ethylbenzene
- 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): Xylene, Ethylbenzene, 2,3-Dichloro-1,3-Butadiene

SECTION 16. OTHER INFORMATION

- 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.® Registered trademark of DuPont Performance Elastomers

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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