

Safety data sheet ELASTOSPRA[®] 8000A ISOCYANATE

Revision date : 2008/03/17

Version: 5.6

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(30232235/MDS GEN US/EN)

1. Substance/preparation and company identification

Company
BASF Polyurethane Foam Enterprises LLC
13630 Watertown Circle
Minneapolis, MN 55441

24 Hour Emergency Response Information
CHEMTREC: 1-800-424-9300
Hotline: 1-800-888-3342

Molecular weight:
Chemical family:
Synonyms:

360 g/mol
aromatic isocyanates
POLYMETHYLENE POLYPHENYLISOCYANATE

2. Composition/information on ingredients

CAS Number	Content (W/W)	Chemical name
101-68-8	38.0 %	Diphenylmethane-4,4'-diisocyanate (MDI)
26447-40-5	< 10.0 %	MDI Mixed isomers
9016-87-9	< 55.0 %	P-MDI

3. Hazard identification

Emergency overview

CAUTION: CONTAINS DIPHENYLMETHANE DIISOCYANATE (CAS No. 101-68-8). INHALATION OF MDI MISTS OR VAPORS MAY CAUSE RESPIRATORY IRRITATION, BREATHLESSNESS, CHEST DISCOMFORT AND REDUCED PULMONARY FUNCTION. OVEREXPOSURE WELL ABOVE THE PEL MAY RESULT IN BRONCHITIS, BRONCHIAL SPASMS AND PULMONARY EDEMA. LONG-TERM EXPOSURE TO ISOCYANATES HAS BEEN REPORTED TO CAUSE LUNG DAMAGE, INCLUDING REDUCED LUNG FUNCTION WHICH MAY BE PERMANENT. ACUTE OR CHRONIC OVEREXPOSURE TO ISOCYANATES MAY CAUSE SENSITIZATION IN SOME INDIVIDUALS, RESULTING IN ALLERGIC RESPIRATORY REACTIONS INCLUDING WHEEZING, SHORTNESS OF BREATH AND DIFFICULTY BREATHING.

Potential health effects

Primary routes of exposure

Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquified gases.

Acute toxicity:

Information on: MDI

Inhalation of MDI vapors may cause irritation of the mucous membranes of the nose, throat or trachea, breathlessness, chest discomfort, difficult breathing and reduced pulmonary function. Air-borne overexposure well above the PEL may result additionally in eye irritation, headache, chemical bronchitis, asthma-like findings or pulmonary edema. Isocyanates have also been reported to

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cause hypersensitivity pneumonitis, which is characterized by flu-like symptoms, the onset of which may be delayed. Gastrointestinal symptoms include nausea, vomiting and abdominal pain.

Irritation:

Information on: Diisocyanates

Eye contact with isocyanates may result in conjunctival irritation and mild corneal opacity. Skin contact may result in dermatitis, either irritative or allergic.

Repeated dose toxicity:

Information on: MDI

Results from a lifetime inhalation study in rats indicate that MDI aerosol was carcinogenic at 6 mg/m³, the highest dose tested. This is well above the recommended TLV of 5 ppb (0.05 mg/m³). Only irritation was noted at the lower concentration of 0.2 and 1 mg/m³. No birth defects or teratogenic effects were reported in a teratology study with rats exposed to 1, 4, and 12 mg/m³ polymeric MDI for 6 hr/day on days 6-15 of gestation. Embryotoxicity and fetotoxicity was reported at the top dose in the presence of maternal toxicity.

Information on: Isocyanates

As a result of previous repeated overexposures or a single large dose, certain individuals will develop isocyanate sensitization (chemical asthma) which will cause them to react to a later exposure to isocyanate at levels well below the PEL/TLV. These symptoms, which include chest tightness, wheezing, cough, shortness of breath, or asthmatic attack, could be immediate or delayed up to several hours after exposure. Similar to many non-specific asthmatic responses, there are reports that once sensitized an individual can experience these symptoms upon exposure to dust, cold air, or other irritants. This increased lung sensitivity can persist for weeks and in severe cases for several years. Chronic overexposure to isocyanates has also been reported to cause lung damage, including a decrease in lung function, which may be permanent. Sensitization may be either temporary or permanent. Prolonged contact can cause reddening, swelling, rash, scaling, or blistering. In those who have developed a skin sensitization, these symptoms can develop as a result of contact with very small amounts of liquid material, or even as a result of vapor-only exposure.

Medical conditions aggravated by overexposure:

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. Contact may aggravate pulmonary disorders. Persons with history of respiratory disease or hypersensitivity should not be exposed to this product. Preemployment and periodic medical examinations with respiratory function tests (FEV₁, FVC as a minimum) are suggested.

An animal study indicated that MDI may induce respiratory hypersensitivity following dermal exposure. Persons with asthmatic conditions, chronic bronchitis, other chronic respiratory diseases, recurrent eczema or pulmonary sensitization should be excluded from working with isocyanates. Once a person is diagnosed as having pulmonary sensitization (allergic asthma) to isocyanates, further exposure is not recommended.

4. First-aid measures

General advice:

Remove contaminated clothing.

If inhaled:

Remove the affected individual into fresh air and keep the person calm. Assist in breathing if necessary. Immediate medical attention required.

If on skin:

Wash affected areas thoroughly with soap and water. If irritation develops, seek medical attention.

If in eyes:

In case of contact with the eyes, rinse immediately for at least 15 minutes with plenty of water. Immediate medical attention required.

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If swallowed:

Rinse mouth and then drink plenty of water. Do not induce vomiting. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Immediate medical attention required.

Note to physician

Hazards:
Antidote:
Treatment:
Symptoms can appear later.
Specific antidotes or neutralizers to isocyanates do not exist.
Treatment should be supportive and based on the judgement of the physician in response to the reaction of the patient.

5. Fire-fighting measures

Flash point: 220 °C
Autoignition: (open cup)
No data available.

Suitable extinguishing media:
water, dry extinguishing media, carbon dioxide, foam

Hazards during fire-fighting:
nitrous gases, fumes/smoke, isocyanate, vapour

Protective equipment for fire-fighting:
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

6. Accidental release measures

Personal precautions:
Clear area. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment.

Environmental precautions:
Do not discharge into drains/surface waters/groundwater.

Cleanup:
Dike spillage.

For small amounts: Absorb isocyanate with suitable absorbent material (see § 40 CFR, sections 260, 264 and 265 for further information). Shovel into open container. Do not make container pressure tight. Move container to a well-ventilated area (outside). Spill area can be decontaminated with the following recommended decontamination solution: Mixture of 90 % water, 8 % concentrated ammonia, 2 % detergent. Add at a 10 to 1 ratio. Allow to stand for at least 48 hours to allow escape of evolved carbon dioxide. For large amounts: If temporary control of isocyanate vapor is required, a blanket of protein foam or other suitable foam (available from most fire departments) may be placed over the spill. Transfer as much liquid as possible via pump or vacuum device into closed but not sealed containers for disposal. Wash down spill area with For residues: The following measures should be taken for final cleanup: Wash down spill area with decontamination solution. Allow solution to stand for at least 10 minutes.

7. Handling and storage

Handling

General advice:

If bulging of drum occurs, transfer to well ventilated area, puncture to relieve pressure, open vent and let stand for 48 hours before resealing.

Protection against fire and explosion:
No explosion proofing necessary.

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Storage

General advice:

Formation of CO₂ and build up of pressure possible. Keep container tightly closed and in a well-ventilated place. Outage of containers should be filled with dry inert gas at atmospheric pressure to avoid reaction with moisture.

Storage incompatibility:

General: Segregate from bases.

Storage stability:

Storage temperature: 60 - 80 °F
Protect against moisture.

8. Exposure controls and personal protection

Components with workplace control parameters

Diphenylmethane-4,4'-diisocyanate (MDI)	OSHA	CLV 0.02 ppm	0.2 mg/m ³
	ACGIH	TWA value	0.005 ppm

Advice on system design:

Provide local exhaust ventilation to maintain recommended P.E.L.

Personal protective equipment

Respiratory protection:

For situations where the airborne concentrations may exceed the level for which an air purifying respirator is effective, or where the levels are unknown or immediately Dangerous to Life or Health (IDLH), use NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions. When atmospheric levels may exceed the occupational exposure limit (PEL or TLV) NIOSH-certified air-purifying respirators equipped with an organic vapor sorbent and particulate filter can be used as long as appropriate precautions and change out schedules are in place.

Hand protection:

Chemical resistant protective gloves. Suitable materials, chloroprene rubber (Neoprene), nitrile rubber (Buna N), chlorinated polyethylene, polyvinylchloride (Pviox), butyl rubber, fluorocelastomer (Viton)

Eye protection:

Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

Body protection:

Suitable materials, saran-coated material

General safety and hygiene measures:

Wear protective clothing as necessary to prevent contact. Eye wash fountains and safety showers must be easily accessible. Observe the appropriate PEL value. Wash soiled clothing immediately. Contaminated equipment or clothing should be cleaned after each use or disposed of.

9. Physical and chemical properties

Form:	liquid
Odour:	faint odour, aromatic
Colour:	dark brown
pH value:	3 °C
Freezing point:	200 °C
Boiling point:	> 0.00001 mmHg
Vapour pressure:	1.22
Relative density:	10.16 lb/USg
Bulk density:	200 mPa.s
Viscosity, dynamic:	(20 °C)

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Miscibility with water:

Reacts with water.

10. Stability and reactivity

Conditions to avoid:

Avoid moisture.

Substances to avoid:

water, alcohols, strong bases, Substances/products that react with isocyanates.

Hazardous reactions:

The product is chemically stable.

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.

Decomposition products:

Hazardous decomposition products: carbon monoxide, hydrogen cyanide, nitrogen oxides, aromatic isocyanates, gases/vapours

Thermal decomposition:

> 260 °C

No data available.

Corrosion to metals:

No corrosive effect on metal.

11. Toxicological information

Acute toxicity

Oral:

LD50/rat: > 10,000 mg/kg

Practically nontoxic.

Inhalation:

LC50/rat: > 2,240 mg/l / 1 h

Moderately toxic.

12. Ecological information

Environmental toxicity

Acute and prolonged toxicity to fish:

static

zebra fish/LC50 (24 h): > 500 mg/l

Practically nontoxic.

Acute toxicity to aquatic invertebrates:

Daphnia magna/EC50 (24 h): > 500 mg/l

Practically nontoxic.

13. Disposal considerations

Waste disposal of substance:

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Incinerate or dispose of in a licensed facility.
Do not discharge substance/product into sewer system.

Container disposal:

DRUMS:
Steel drums must be emptied and can be sent to a licensed drum reconditioner for reuse, a scrap metal dealer or an approved landfill. Refer to 40 CFR § 261.7 (residues of hazardous waste in empty containers). Check with reconditioner to determine if decontamination is required. Decontaminate containers prior to disposal. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

14. Transport information

Land transport
USDOT

Not classified as a dangerous good under transport regulations

Sea transport
IMDG

Not classified as a dangerous good under transport regulations

Air transport
IATA/CAO

Not classified as a dangerous good under transport regulations

15. Regulatory information

Federal Regulations

Registration status:

TSCA, US
released / listed

TSCA 12B
released / listed

OSHA hazard category:

ACGIH TLV established. Highly toxic - Inhalation, Chronic target organ effects reported, Skin and/or eye irritant, Acute target organ effects reported, Sensitizer, OSHA PEL established

CERCLA RQ

CAS Number

101-68-8

Chemical name

Diphenylmethane-4,4'-diisocyanate (MDI)

5000 LBS

SARA hazard categories (EPCRA 311/312): Acute, Chronic

SARA 313:

CAS Number

Chemical name

Diisocyanates Compound Category

State regulations

State RTK

CAS Number

101-68-8

Chemical name

Diphenylmethane-4,4'-diisocyanate (MDI)

P-MDI

9016-87-9

State RTK
MA, NJ, PA
NJ

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16. Other information

HMIS III rating

Health: 2*

Flammability: 1

Physical hazard: 1

HMIS uses a numbering scale ranging from 0 to 4 to indicate the degree of hazard. A value of zero means that the substance possesses essentially no hazard; a rating of four indicates high hazard.

Local contact information

1-800-888-3342

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END OF DATA SHEET

ICC-ES Evaluation Report

ESR-2642*
 Reissued February 1, 2010
 This report is subject to re-examination in two years.

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DIVISION: 07 00 00—THERMAL AND MOISTURE

3.0 DESCRIPTION

3.1 General:

SPRAYTITE® (158, 178, 81205 and 81206), COMFORT FOAM® (158 and 178) and WALLTITE® (US and US-N) are two-component, closed-cell, rigid foam plastic insulations. The insulations are produced in the field by combining an isocyanate component A with a resin component B, resulting in products having a nominal density of 2.0 pcf (32 kg/m³). SPRAYTITE®, COMFORT FOAM® and WALLTITE® insulations use an A component designated as ELASTOSPRAV® 8000A. Each insulation uses a different proprietary blend for the B component. The insulation components B have a shelf life of three months and components A have a shelf life of nine months when stored in factory-sealed containers at temperatures between 50°F (10°C) and 80°F (27°C) before installation.

3.2 Surface-burning Characteristics:

The insulations have a flame-spread index of 25 or less and a smoke-developed index of 450 or less when tested in accordance with ASTM E 84 at a maximum thickness of 4 inches (102 mm).

Thicknesses of up to 8 inches (203 mm) for wall cavities and 12 inches (305 mm) for ceiling cavities are recognized, based on testing in accordance with NFPA 286, when covered with a minimum 1/2-inch-thick (12.7 mm) gypsum board or an equivalent thermal barrier complying with, and installed in accordance with, the applicable code.

3.3 Thermal Resistance, R-values:

The insulations have thermal resistance (R-values) at a mean temperature of 75°F (24°C) as shown in Table 1.

3.4 Vapor Retarder:

The insulations have a vapor permeance of less than 1 perm [5.7 x 10⁻¹¹ kg/(m²sPa)], in accordance with ASTM E 96, when applied at the following minimum thicknesses, and qualify as Class II vapor retarders:

SPRAYTITE® (158, 81205)	=	3 inches (76 mm)
SPRAYTITE® (178, 81206)	=	2 inches (51 mm)
COMFORT FOAM® (158)	=	3 inches (76 mm)
COMFORT FOAM® (178)	=	2 inches (51 mm)
WALLTITE® (US and US-N)	=	2 inches (51 mm)

3.5 Air Permeability:

SPRAYTITE® (178 and 81206), COMFORT FOAM® 178 and WALLTITE® (US and US-N) spray-applied polyurethane foam insulations, at a minimum thickness of

EVALUATION SUBJECT:

BASF POLYURETHANE FOAM ENTERPRISES SPRAY-APPLIED INSULATIONS: SPRAYTITE® (158, 178, 81205 AND 81206); COMFORT FOAM® (158 AND 178) AND WALLTITE® (US AND US-N)

REPORT HOLDER:

BASF POLYURETHANE FOAM ENTERPRISES, LLC
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 MINNEAPOLIS, MINNESOTA 55441
 (800) 888-3342
www.bast-pfe.com

PROTECTION

Section: 07 21 00—Thermal Insulation

2.0 USES

- Compliance with the following codes:
 - 2009 International Building Code® (IBC)
 - 2009 International Residential Code® (IRC)
 - 2009 International Energy Conservation Code® (IEEC)
 - Other Codes (see Section 8)
- Properties evaluated:
 - Physical properties
 - Surface burning characteristics
 - Water vapor transmission
 - Attic and crawl space installation
 - Air permeability
 - Fire-resistance-rated construction
 - Exterior walls in Types I through IV construction

SPRAYTITE® (158, 178, 81205 and 81206), COMFORT FOAM® (158 and 178) and WALLTITE® (US and US-N) spray-applied polyurethane foam insulations are used as nonstructural thermal insulating material in Type I, II, III, IV and V construction under the IBC and dwellings under the IRC. See Section 4.6 for use in Type I, II, III, IV and V construction. The insulation is for use in wall cavities, floor/ceiling assemblies, or attic and crawl spaces as described in Section 4.4. Under the IRC, the insulation may be used as air-impermeable insulation when installed in accordance with Section 3.5. The insulation may be used in fire-resistance-rated wall assemblies when construction is in accordance with Section 4.5.

Corrected August 2010



1 inch (25.4 mm), are considered air-impermeable insulation in accordance with Section R806.4 of the IRC, based on testing in accordance with ASTM E 283.

3.6 ELASTOCOAT™ 1500 Ignition Barrier:

ELASTOCOAT™ 1500 Ignition Barrier coating is supplied by BASF Polyurethane Foam Enterprises, LLC. The coating is water-based and available in both 5- and 55-gallon containers (18.9 and 208 L) and has a shelf life of six months when stored in a factory-sealed container at temperatures between 50°F (10°C) and 80°F (26.5°C).

3.7 ALDOCOAT 800 Intumescent Coating:

ALDOCOAT 800 intumescent coating is manufactured by Aldo Products Company and is a water-based latex coating supplied in 5-gallon pails and 55-gallon (18.9 and 208 L) drums. The materials have a shelf-life of six months when stored in a factory-sealed container at temperatures of 40°F (4.5°C) and 90°F (32°C).

3.8 NOBURN® Plus Intumescent Coating:

Noburn® intumescent coating, manufactured by No-Burn, Inc., is a translucent aqueous liquid supplied in 1- and 5-gallon (3.8 and 18.8 L) pails and 55-gallon (208 L) drums. The coating has a shelf life of three years when stored in a factory-sealed container at temperatures between 40°F (4.5°C) and 90°F (32°C).

4.0 INSTALLATION

4.1 General:

The insulation must be installed in accordance with the manufacturer's published installation instructions, the applicable code and this report. The manufacturer's published installation instructions must be available on the jobsite at all times during installation.

4.2 Application:

The insulation is spray-applied at the jobsite using a volumetric positive displacement pump as recommended in the manufacturer's published installation instructions. The insulation is applied in passes having a minimum thickness of 1/2 inch (12.7 mm) and a maximum thickness of 2 inches (51 mm) per pass, up to the total thickness specified in Sections 3.2, 4.3 and 4.4 of this report. The insulation passes must be allowed to fully expand and be cured for a minimum of 15 minutes prior to application of an additional pass. The insulation must not be used in areas that have a maximum service temperature greater than 180°F (82°C). The foam plastic insulation must not be used in electrical outlet or junction boxes or in contact with rain or water (e.g., rain, condensation, ice, snow). The substrate must be free of moisture, frost or ice, loose scales, rust, oil, and grease or other surface contaminants. The insulation must be protected from the weather during and after application.

4.3 Thermal Barrier:

The spray-applied insulations must be separated from the interior of the building by an approved thermal barrier of 0.5-inch (12.7 mm) gypsum wallboard or an equivalent 15-minute thermal barrier complying with IBC Section 2603.4 or IRC Section R316.4, as applicable, except where installation is in an attic or crawl space as described in Section 4.4, or when the installation is in sill plates and headers at a total thickness of 3.25 inches (83 mm) or less as permitted by IRC Section R316.5.11. Thicknesses of up to 8 inches (203 mm) for wall cavities and 12 inches (305 mm) for ceiling cavities are recognized, based on testing in accordance with NFPA 286.

4.4 Attics and Crawl Spaces:

4.4.1 Application with a Prescriptive Ignition Barrier: When the spray-applied insulations are installed within attics or crawl spaces where entry is made only for service of utilities, an ignition barrier must be installed in accordance with IBC Section 2603.4.1.6 or IRC Sections R316.5.3 and R316.5.4, as applicable. The ignition barrier must be consistent with the requirements for the type of construction required by the applicable code, and must be installed in a manner so that the foam plastic insulation is not exposed.

4.4.2 Application without a Prescriptive Ignition Barrier: The SPRAYTITE® (178 and 81206), COMFORT FOAM® 178 and WALLTITE® (US and US-N) insulations may be installed in attics and crawl spaces as described in this section without the ignition barriers described in IBC Section 2603.4.1.6 and IRC Sections R316.5.3 and R316.5.4, subject to the following conditions:

- Entry to the attic or crawl space is to service utilities, and no storage is permitted.
- There are no interconnected attic or crawl space areas.
- Air in the attic or crawl space is not circulated to other parts of the building.
- Attic ventilation is provided when required by IBC Section 1203.2 or IRC Section R806, except when air-impermeable insulation is permitted in unvented attics in accordance with Section R806.4 of IRC. Under-floor (crawl space) ventilation is provided when required by IBC Section 1203.3 or IRC Section R408.1, as applicable.
- Combustion air is provided in accordance with IMC Sections 701.

In attics, the insulation may be spray-applied with no covering (no ignition barrier) to the underside of roof sheathing or roof rafters, and/or vertical surfaces. In crawl spaces, the insulations may be spray-applied with no covering (ignition barrier) to the underside of floors and/or vertical surfaces. The thickness of the foam plastic, applied to the underside of the top of the space and/or vertical surfaces, must not exceed values set forth in Table 2. Surfaces to be coated must be dry, clean, and free of dirt, loose debris and any other substances that could interfere with adhesion of the coating. The intumescent coating is applied with a medium-size nap roller, soft brush or conventional airless spray equipment at a rate specified in Table 2. The coating must be applied when ambient and substrate temperatures are above of 50°F (10°C). The coating requires a 24-hour curing time. The insulation may be installed in unvented attics as described in this section in accordance with IRC Section R806.4.

4.4.3 Use on Attic Floors: The SPRAYTITE® (178 and 81206), COMFORT FOAM® 178, and WALLTITE® (US and US-N) insulations may be installed in accordance with this section and Table 2 at a maximum thickness of 9 1/4 inches (235 mm) between and over the joists in attic floor. The insulation must be separated from the interior of the building by an approved thermal barrier. The ignition barrier required in IBC Section 2603.4.1.6 and IRC Section R316.5.3 may be omitted.

4.5 Two-hour Fire-resistance-rated Wall Assemblies (Load-bearing):

SPRAYTITE® 158, SPRAYTITE® 81205 or COMFORT FOAM® 158 may be installed on interior load-bearing two-hour fire-resistance-rated walls, provided the system is installed in accordance with the following:

- 4.5.1 Wood Framing:** Two rows on separate plates, 3 inches (76 mm) apart, of minimum 2-by-4 wood studs (No. 2 Douglas fir) spaced a maximum of 16 inches (406 mm) on center.
- 4.5.2 Wall Finish:** Base layer of $\frac{5}{8}$ -inch-thick (15.9 mm), Type X gypsum wallboard is applied horizontally and fastened to each outer side of a double row of studs with 6d by $1\frac{1}{8}$ -inch-long (48 mm) coated nails, spaced 2 feet (610 mm) on center. Face layer of $\frac{5}{8}$ -inch-thick (15.9 mm), Type X gypsum board is applied horizontally and fastened to each outer side of studs over the base layer with 8d by $2\frac{3}{8}$ -inch-long (60 mm) coated nails, spaced 8 inches (203 mm) on centers. Gypsum wallboard joints must be staggered 24 inches (610 mm) between layers and on opposite sides of the wall.
- 4.5.3 Insulation:** SPRA-YTITE® 158, SPRA-YTITE® 81205 or COMFORT FOAM® 158 is applied in the stud cavities of both rows at a thickness of 3 inches (76 mm).
- 4.6 Exterior Walls in Types I, II, III and IV Construction:**
- When used on walls of Type I, II, III and IV construction, the SPRA-YTITE® (178, 81206), COMFORT FOAM® 178, and WALLTITE® (US and US-N) spray-applied foam insulation must comply with Section 2603.5 of the IBC at a maximum thickness of 3 inches (76 mm), when installed per the manufacturer's published installation instructions and this report. The potential heat of the foam plastic in any portion of the wall or panels must not exceed the potential heat, expressed in Btu/ft² (MJ/m²), of the foam plastic insulation contained in the wall assembly tested in accordance with NFPA 285. The potential heat of SPRA-YTITE® (178, 81206), COMFORT FOAM® 178, and WALLTITE® (US and US-N) spray-applied insulation is 196.1 Btu/ft² (22.3 MJ/m²) per inch of thickness.
- 5.0 CONDITIONS OF USE**
- The BASF Polyurethane Foam Enterprises spray-applied insulation described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:
- 5.1** The spray-applied insulation and the intumescent coatings must be installed in accordance with the manufacturer's published installation instructions, this evaluation report and the applicable code. The instructions within this report govern if there are any conflicts between the manufacturer's published installation instructions and this report.
- 5.2** The spray-applied insulation must be separated from the interior of the building by an approved 15-minute thermal barrier, as described in Section 4.3, except where installation is in an attic or crawl space as described in Section 4.4.
- 5.3** The spray-applied insulation must not exceed the thicknesses noted in Sections 3.2, 4.3 and 4.4.
- 5.4** The spray-applied insulation must be protected from the weather during and after application.
- 5.5** The spray-applied insulation must be applied by professional spray polyurethane foam installers certified by BASF Polyurethane Foam Enterprises or by the Spray Polyurethane Foam Alliance (SPFA) for the installation of spray polyurethane foam insulation.
- 5.6** Installation in fire-resistance-rated construction must be as described in Section 4.5.
- 5.7** Use of the insulation in areas where the probability of termite infestation is "very high" must be in accordance with IBC Section 2603.8 or IRC Section R318.4, as applicable.
- 5.8** Jobsite certification and labeling of the insulation must comply with IRC Sections N1101.4 and N1101.4.1 and IECC Sections 303.1.1 and 303.1.2.
- 5.9** When use is on buildings of Type I, II, III and IV construction, documentation must be submitted to the code official verifying that the insulation has been qualified as a component of an assembly tested in accordance with Sections 2603.5.1, 2603.5.5 and 2603.5.7 of the IBC, as applicable. The maximum potential heat of the foam plastic used in the assembly must be no greater than that noted in Section 4.6.
- 5.10** The polyurethane foam plastic insulation components are produced in Houston, Texas, and Minneapolis, Minnesota, under a quality control program with inspections by Underwriters Laboratories Inc. (AA-668).
- 6.0 EVIDENCE SUBMITTED**
- 6.1** Data in accordance with the ICC-ES Acceptance Criteria for Spray-applied Foam Plastic Insulation (AC377), dated June 2009, including reports of tests in accordance with Appendix A Section A1.2.2 or Appendix X of AC377.
- 6.2** Data in accordance with ASTM E 119.
- 6.3** Reports of water vapor transmission tests in accordance with ASTM E 96.
- 6.4** Reports of air leakage testing in accordance with ASTM E 283.
- 6.5** Reports of fire propagation characteristics tests in accordance with NFPA 285.
- 6.6** Reports of potential heat of foam plastics tests in accordance with NFPA 259.
- 6.7** Reports of room corner tests in accordance with NFPA 286.
- 7.0 IDENTIFICATION**
- Each container of components A and B of the polyurethane foam plastic insulation bears a label with the BASF Polyurethane Foam Enterprises, LLC, name and address, the product name, the product type (A or B component), density, the flame-spread and smoke-developed indices, the evaluation report number (ESR-2642), the shelf life and the date of manufacture. The containers also bear the name of the inspection agency (Underwriters Laboratories Inc.).
- ELASTOCOAT™ 1500 Ignition Barrier coating is identified with the BASF Polyurethane Foam Enterprises, LLC, report holder's name and the product name.
- ALDOCOAT 800 intumescent coating is identified with the manufacturer's name (Aldo Products Company) and address, the product trade name, and use instructions.
- NoBurn® Plus intumescent coating is identified with the manufacturer's name (No-Burn, Inc.) and address, the product trade name, and use instructions.

8.0 OTHER CODES

8.1 Evaluation Scope:

In addition to the codes referenced in Section 1.0, the products in this report were evaluated for compliance with the requirements of the following codes:

- 2006 International Building Code®
- 2006 International Residential Code®
- 2006 International Energy Conservation Code®
- 2003 International Building Code®
- 2003 International Residential Code®
- 2003 International Energy Conservation Code®
- 2000 International Building Code®

8.2 Uses:

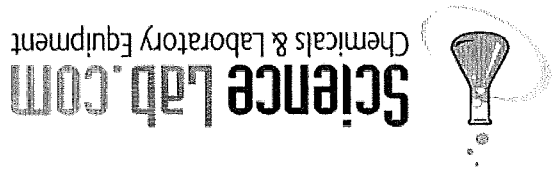
The products comply with the above-mentioned codes as described in Sections 2.0 through 7.0 of this report, with the following modifications:

- 2000 International Residential Code®
 - 2000 International Energy Conservation Code®
- Application with a Prescriptive Ignition Barrier: See Section 4.4.1, except attics and crawl spaces must be vented in accordance with the applicable code.
- Application without a Prescriptive Ignition Barrier: See Section 4.4.2, except attics and crawl spaces must be vented in accordance with the applicable code.

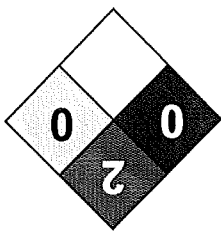
B	2-Butanone					Formula: CH ₃ COCH ₂ CH ₃	CAS#: 78-93-3	RTCS#: EL6475000	IDLH: 3000 ppm	Conversion: 1 ppm = 2.95 mg/m ³	DOT: 1193 127	Synonyms/Trade Names: Ethyl methyl ketone, MEK, Methyl acetone, Methyl ethyl ketone

Exposure Limits: NIOSH REL: TWA 200 ppm (590 mg/m³) ST 300 ppm (885 mg/m³) OSHA PEL: TWA 200 ppm (590 mg/m³)		Physical Description: Colorless liquid with a moderately sharp, fragrant, mint- or acetone-like odor.	
Measurement Methods (see Table 1): NIOSH 2500, 2555, 3800 OSHA 16, 84, 1004		Personal Protection/Sanitization (see Table 2): Skin: Prevent skin contact Eyes: Prevent eye contact Wash skin: When wet (flamm) Remove: When wet (flamm) Change: N.R. Provide: Eyewash	
Chemical & Physical Properties: MW: 72.1 BP: 175°F Sol: 28% FLP: 16°F IP: 9.54 eV Sp.Gr: 0.81 VP: 78 mmHg FRZ: -123°F UEL(200°F): 11.4% LEL(200°F): 1.4% Class 1B Flammable Liquid		Incompatibilities and Reactivities: Strong oxidizers, amines, ammonia, inorganic acids, caustics, isocyanates, pyridines	
First Aid (see Table 6): Eye: Irr. Immed Skin: Water wash Immed Breath: Fresh air Swallow: Medical attention Immed		Exposure Routes, Symptoms, Target Organs (see Table 5): ER: Inh, Ing, Con SY: Irrit eyes, skin, nose; head; dizz; vomit; derm TO: Eyes, skin, resp sys, CNS	

2-Butoxyethanol		Formula: C ₄ H ₉ OCH ₂ CH ₂ OH	CAS#: 111-76-2	RTCS#: KJ8575000	IDLH: 700 ppm
Conversion: 1 ppm = 4.83 mg/m ³					
Synonyms/Trade Names: Butyl Cellosolve®, Butyl oxitol, Dowanol® EB, EGBE, Ektasolve EB®, Ethylene glycol monobutyl ether, Jeffersol EB					
Exposure Limits: NIOSH REL: TWA 5 ppm (24 mg/m ³) [skin] OSHA PEL†: TWA 50 ppm (240 mg/m ³) [skin]					
Physical Description: Colorless liquid with a mild, ether-like odor.					
Measurement Methods (see Table 1): NIOSH 1403 OSHA 83		Personal Protection/Sanitization (see Table 2): Skin: Prevent skin contact Eyes: Prevent eye contact Wash skin: When contam Remove: When wet or contam Change: N.R. Provide: Quick drench			
		Chemical & Physical Properties: MW: 118.2 BP: 339°F Sol: Miscible FLP: 143°F IP: 10.00 eV Sp.Gr: 0.90 VP: 0.8 mmHg REL(275°F): 12.7% LEL(200°F): 1.1% Class IIIA Combustible Liquid			
Respirator Recommendations (see Tables 3 and 4): NIOSH 50 ppm: CcROV/Sa* 125 ppm: Sa:C*/PapROV* 250 ppm: CcFOV/GmFOV/PapROV*/ SchaF/SaF 700 ppm: SaF: Pd,Pp §: SchaF: Pd,Pp/SaF: Pd,Pp: AScha Escape: GmFOV/SchaE		Incompatibilities and Reactivities: Strong oxidizers, strong caustics			
First Aid (see Table 6): Eye: Irr. Immed Skin: Soap wash prompt Breath: Resp support Swallow: Medical attention immed					
Exposure Routes, Symptoms, Target Organs (see Table 5): ER: Inh, Abs, Ing, Con SY: Irrit eyes, skin, nose, throat; hemolysis, hema; CNS depres, head; vomit TO: Eyes, skin, resp sys, CNS, hemato sys, blood, kidneys, liver, lymphoid sys					



Material Safety Data Sheet
Mineral spirits MSDS



Health	0
Fire	2
Reactivity	0
Personal Protection	H

Section 1: Chemical Product and Company Identification

Product Name: Mineral spirits
Catalog Codes: SLM3616
CAS#: 64475-85-0
RTECS: WJ8925000
TSCA: TSCA 8(b) inventory: Mineral spirits
CI#: Not applicable.
Synonym:
Chemical Name: Not available.
Chemical Formula: Not available.
Contact Information:
ScienceLab.com, Inc.
14025 Smith Rd.
Houston, Texas 77396
US Sales: 1-800-901-7247
International Sales: 1-281-441-4400
Order Online: ScienceLab.com
CHEMTREC (24HR Emergency Telephone), call: 1-800-424-9300
International CHEMTREC, call: 1-703-527-3887
For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:			
Name	CAS #	% by Weight	
Mineral spirits	64475-85-0	100	
Toxicological Data on Ingredients: Mineral spirits LD50: Not available. LC50: Not available.			

Section 3: Hazards Identification

Potential Acute Health Effects:
Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeator).
Potential Chronic Health Effects:
CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance is toxic to lungs, the nervous system. Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4: First Aid Measures

Eye Contact: Check for and remove any contact lenses. Do not use an eye ointment. Seek medical attention.
Skin Contact:

SCM 3404 - Drum (2001-236.08kg)
1-PART ROOF COATING

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Manufactured By: Canada Plant
 1063 Copperstone Drive
 Pickering ON L1W 3V8
 10/04/2007
 Revised: 10/04/2007
 Preparer: PRODUCT STEWARDSHIP COMPLIANCE AND STANDARDS
 CHEMTREC 1-800-424-9300
 Chemical Family/Use: Architectural Coating
 Formula: Mixture

HMIS
 Flammability: 2 Reactivity: 0 Health: 2

NFPA
 Flammability: 2 Reactivity: 0 Health: 2

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
WARNING! Flammable liquid and vapor. CANCER HAZARD BY INHALATION. Harmful by inhalation and if swallowed. Irritating to eyes, respiratory system and skin.
 Form: Liquid Color: grey Odor: Mild Solvent
POTENTIAL HEALTH EFFECTS

INGESTION
 Harmful if swallowed. Aspiration hazard if swallowed - can enter lungs and cause damage. Causes vomiting, nausea, and diarrhea. Irritation of the mouth, throat, and stomach.
SKIN
 May cause moderate skin irritation. Can dry skin.

INHALATION
 Harmful if inhaled. Irritating to respiratory system. May irritate mouth, nose, and throat. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Can cause unconsciousness if inhaled. Applies in uncured state. A dust hazard may be created if, under conditions of use, solid particles are separated from the polymeric matrix.

EYES
 Causes eye irritation. Causes redness and tearing.

MEDICAL CONDITIONS AGGRAVATED
 Respiratory disorder Central nervous system disorders. Skin disorders.
SUBCHRONIC (TARGET ORGAN)
 Respiratory disorder; Dermatitis; Central nervous system; Liver and kidney damage.; This

product contains a component that is tumorigenic.

CHRONIC EFFECTS / CARCINOGENICITY

This product or one of its ingredients present at 0.1% or more is listed as a carcinogen by NTP, IARC or OSHA X Yes No This product contains greater than 0.1% crystalline silica. The International Agency for Research on Cancer (IARC) previously determined there is sufficient evidence for the carcinogenicity of crystalline silica to experimental animals and limited evidence of carcinogenicity in humans. In a recent re-evaluation of crystalline silica by IARC, it was determined that there is sufficient evidence for the carcinogenicity of inhaled crystalline silica in the forms of Quartz and Cristobalite in humans. The overall evaluation for these two forms of silica is elevated to known human carcinogen (IARC class I).

ROUTES OF EXPOSURE

Inhalation; Dermal; Eyes; Oral.

3. COMPOSITION / INFORMATION ON INGREDIENTS

PRODUCT COMPOSITION	CAS REG NO.	WGT. %
---------------------	-------------	--------

A. HAZARDOUS		
Stearic Acid	57-11-4	1 - 5 %
NAPHTHA	64741-41-9	10 - 30 %
Methyl trimethoxysilane	1185-55-3	1 - 5 %
B. NON-HAZARDOUS		
Treated Silica	68937-51-9	1 - 5 %
dimethylpolysiloxane	70131-67-8	10 - 30 %
Dimethylpolysiloxane	70131-67-8	10 - 30 %

4. FIRST AID MEASURES

INGESTION

Do not induce vomiting. If victim is conscious, give 1-3 glasses of water to drink. Never give anything by mouth to an unconscious person. Get medical attention if irritation persists.

SKIN

Wash off with soap and water. Remove and wash contaminated clothing before re-use. Get medical attention if irritation persists.

INHALATION

If inhaled, remove to fresh air. If not breathing give artificial respiration using a barrier device. If

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breathing is difficult give oxygen. Get medical attention.

EYES

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

NOTE TO PHYSICIAN

None known.

5. FIRE-FIGHTING MEASURES

FLASH POINT:

IGNITION TEMPERATURE:

FLAMMABLE LIMITS IN AIR - LOWER (%):

FLAMMABLE LIMITS IN AIR - UPPER (%):

ca. 6.0 %(V)

No

SENSITIVITY TO MECHANICAL IMPACT:

SENSITIVITY TO STATIC DISCHARGE

Sensitivity to static discharge is expected; material has a flash point below 200 F.

EXTINGUISHING MEDIA

All standard extinguishing agents are suitable.

SPECIAL FIRE FIGHTING PROCEDURES

Combustible, Wear suitable protective equipment., Positive pressure, self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED

Wipe, scrape, or soak up in an inert material and put in a container intended for flammable materials for disposal. Wear proper protective equipment as specified in the protective equipment section. Remove all sources of ignition. Warn other workers of spill. Increase area ventilation. Person not trained should evacuate area.

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Use ground strap and appropriate precautions for dispensing flammable liquids. Keep container closed when not in use. Use only in well-ventilated areas. Store away from heat, sources of ignition, and incompatibles. Avoid contact with skin, eyes and clothing. Keep away from children.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS

Showers; Eyewash stations; Exhaust ventilation; Use only in well-ventilated areas.

RESPIRATORY PROTECTION

If exposure limits are exceeded or respiratory irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Supplied air respirators may be required for non-routine or emergency situations. Respiratory protection must be provided in accordance with OSHA regulations (see 29CFR 1910.134).

PROTECTIVE GLOVES

Rubber gloves

EYE AND FACE PROTECTION

Safety glasses; Monogoggles.

OTHER PROTECTIVE EQUIPMENT

Rubber apron; Wear suitable protective clothing and eye/face protection.

Exposure Guidelines

Component	CAS RN	Source	Value
QUARTZ	14808-60-7	OSHA Z1, PEL	Respirable fraction, 5 mg/m ³
QUARTZ	14808-60-7	OSHA Z1, PEL	Total dust, 15 mg/m ³
QUARTZ	14808-60-7	ACGIH, TWA	Respirable fraction, 0.025 mg/m ³

Absence of values indicates none found

PEL - OSHA Permissible Exposure Limit; TLV - ACGIH Threshold Limit Value; TWA - Time Weighted Average

OSHA revoked the Final Rule Limits of January 19, 1989 in response to the 11th Circuit Court of Appeals decision (AFL-CIO v. OSHA) effective June 30, 1993. See 29 CFR 1910.1000 (58 FR 35338).

9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT - C & F: ca.156 °C; 313 °F
VAPOR PRESSURE (20 C) (MM HG): Unknown
VAPOR DENSITY (AIR=1): No data available
FREEZING POINT: Unknown
MELTING POINT: Unknown
PHYSICAL STATE: Liquid
ODOR: Mild Solvent
COLOR: grey
EVAPORATION RATE (BUTYL ACETATE=1): Unknown
SPECIFIC GRAVITY (WATER=1): ca. 1.2

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DENSITY: ca. 1.2 g/cm³
ACID / ALKALINITY (MEQ/G): Unknown
pH: Not applicable
VOLATILE ORGANIC CONTENT (VOL): 23.5 %(m)
SOLUBILITY IN WATER (20 C): Insoluble
SOLUBILITY IN ORGANIC SOLVENT (STATE) Soluble in Petroleum Distillate
SOLVENT: VOC EXCL. H₂O & EXEMPTS (G/L): 310

10. STABILITY AND REACTIVITY

STABILITY

Stable

HAZARDOUS POLYMERIZATION

Will not occur.

HAZARDOUS THERMAL DECOMPOSITION / COMBUSTION PRODUCTS

Carbon dioxide (CO₂); Carbon monoxide; Silicon dioxide; Formaldehyde

INCOMPATIBILITY (MATERIALS TO AVOID)

None known.

CONDITIONS TO AVOID

Keep away from heat and sources of ignition. Avoid any source of ignition due to flammability.

11. TOXICOLOGICAL INFORMATION

ACUTE ORAL

Remarks: Unknown

ACUTE DERMAL

Remarks: Unknown

ACUTE INHALATION

Remarks: Unknown

OTHER

Octamethylcyclotetrasiloxane Ingestion: Rodents given large doses via oral gavage of octamethylcyclotetrasiloxane (1600 mg/kg day, 14 days) developed increased liver weights relative to unexposed control animals due to hepatocellular hyperplasia (increased number of liver cells which appear normal) as well as hypertrophy (increased cell size). Inhalation: In inhalation studies, laboratory rodents exposed to octamethylcyclotetrasiloxane (300 ppm five days week, 90 days) developed increased liver weights in female animals relative to unexposed control animals. When the exposure was stopped, liver weights returned to normal. Microscopic examination of the liver cells did not show any evidence of pathology. Inhalation studies utilizing laboratory rabbits and guinea pigs showed no effects on liver weights. Inhalation exposures typical of industrial usage (5-10 ppm)

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showed no toxic effects in rodents. Range finding reproductive studies were conducted (whole body inhalation, 70 days prior to mating, through mating, gestation and lactation) with octamethylcyclotetrasiloxane (D4). Rats were exposed to 70 and 700 ppm. In the 700 ppm group, there was a statistically significant reduction in mean litter size and in implantation sites. No D4 related clinical signs were observed in the pups and no exposure related pathological findings were found. Interim results from a two generation reproductive study in rats exposed to 500 and 700 ppm D4 (whole body inhalation, 70 days prior to mating, through mating, gestation and lactation) resulted in a statistically significant decrease in live mean litter size as well as extended periods of off-spring delivery (dystocia). These results were not observed at the 70 and 300 ppm dosing levels. Preliminary results from an ongoing 24-month combined chronic/oncogenicity study in rats exposed to 10, 30, 150, or 700 ppm D4 showed test-article related effects in the kidney (male and female) and uterus of rats exposed for 12 to 24 months. These effects include increased kidney weight and severity of chronic nephropathy, increased uterine weight, increased incidence of endometrial cell hyperplasia, and an increased incidence of endometrial adenomas. All of these effects are limited to the 700 ppm exposure group. The relevance of these data to humans is unclear. Further studies are ongoing. In developmental toxicity studies, rats and rabbits were exposed to octamethylcyclotetrasiloxane at concentrations up to 700 ppm and 500 ppm respectively. No teratogenic effects (birth defects) were observed in either study.

SENSITIZATION

No data available

SKIN IRRITATION

No data available

EYE IRRITATION

No data available

MUTAGENICITY

Unknown

OTHER EFFECTS OF OVEREXPOSURE

This product contains methylpolysiloxanes which can generate formaldehyde at approximately 300 degrees Fahrenheit (150°C) and above, in atmospheres which contain oxygen. Formaldehyde is a skin and respiratory sensitizer, eye and throat irritant, acute toxicant, and potential cancer hazard. A MSDS for formaldehyde is available from Momentive, Methanol released during curing, Octamethylcyclotetrasiloxane ingestion: Rodents given large doses via oral gavage of octamethylcyclotetrasiloxane (1600 mg/kg day, 14 days) developed liver weights relative to unexposed control animals due to hepatocellular hyperplasia (increased number of liver cells which appeared normal) as well as hypertrophy (increased cell size). Inhalation: In inhalation studies, laboratory rodents exposed to octamethylcyclotetrasiloxane (300 ppm five days/week, 90 days) developed increased liver weights in female animals relative to unexposed control animals. When the exposure was stopped, liver weights returned to normal. Microscopic examination of the liver cells did not show any evidence of pathology. Inhalation studies utilizing laboratory rabbits and guinea pigs showed no effects on liver weights. Inhalation exposures typical of industrial usage (5-10 ppm) showed no toxic effects in rodents. Range finding reproductive studies were conducted (whole body inhalation, 70 days prior to mating, through mating, gestation and lactation) with octamethylcyclotetrasiloxane (D4). Rats were exposed to 70 and 700 ppm. In the 700 ppm group, there was a statistically significant reduction in mean litter size and in implantation sites. No D4 related clinical signs were observed in the pups and no exposure related pathological findings were found. Interim results from a two generation reproductive study in rats exposed to 500 and 700 ppm

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D4 (whole body inhalation, 70 days prior to mating through mating, gestation and lactation) resulted in a statistically significant decrease in live mean litter size as well as extended period of off-spring delivery (dystocia). These results were not observed at the 70 and 300 ppm dosing levels. Preliminary results from an ongoing 24-month combined chronic/oncogenicity study in rats exposed to 10, 30, 150 or 700 ppm D4 showed test-article related effects in the kidney (male and female) and uterus of rats exposed for 12 to 24 months. These effects include increased incidence of endometrial cell hyperplasia, and an increased incidence of endometrial adenomas. All of these effects were limited to the 700 ppm exposure group. The relevance of this data to humans is unclear. Further studies are ongoing. In developmental toxicity studies, rats and rabbits were exposed to octamethylcyclotetrasiloxane at concentrations up to 700 ppm and 500 ppm, respectively. No teratogenic effects (birth defects) were observed in either study.

12. ECOLOGICAL INFORMATION

DISTRIBUTION
No data available
CHEMICAL FATE
No data available

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD
Disposal should be made in accordance with federal, state and local regulations.

14. TRANSPORT INFORMATION

DOT SHIPPING NAME: Combustible liquid, n.o.s.
DOT HAZARD CLASS: CBL
DOT LABEL (S): NON
UN/NA NUMBER: NA 1993
PACKING GROUP: III

Further Information: This product is considered flammable for transportation. It has been reclassified as combustible by ground transportation per 49CFR173.120(b)(2). This product must be classified as flammable when transported by vessel or aircraft.

15. REGULATORY INFORMATION

Inventories

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Canada DSL Inventory	Canada Existing Chemicals	Canada DSL Inventory
Inventory (KECI)	China Inventory of Existing Chemical Substances	China Inventory of Existing Chemical Substances
Philippines Inventory of Chemicals and Chemical Substances (AICS)	Australia Inventory of Chemical Substances (PICCS)	Philippines Inventory of Chemicals and Chemical Substances (PICCS)
TSCA list	EU list of existing chemical substances	EU list of existing chemical substances
Canada NDSL Inventory	Japan Inventory of Existing & New Chemical Substances	Canada NDSL Inventory
Canada Inventory of Existing & New Chemical Substances (ENCS)	For inventories that are marked as quantity restricted or special cases, please contact Momentive.	Canada Inventory of Existing & New Chemical Substances (ENCS)

US Regulatory Information

SARA (311,312) HAZARD CLASS
Acute Health Hazard; Chronic Health Hazard; Fire Hazard
SARA (313) CHEMICALS

Canadian Regulatory Information

WHMIS HAZARD CLASS
Combustible Liquid, D2A VERY TOXIC MATERIALS (Quartz)
Other

SCHDLE B/HTSUS: 3214.10.0010 Mastics based on rubber
ECGN: EAR99

CALIFORNIA PROPOSITION 65
Warning! This product contains a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.
14808-60-7, Quartz.

16. OTHER INFORMATION

OTHER
These data are offered in good faith as typical values and not as product specifications. No warranty.

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either expressed or implied, is made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate, C = ceiling limit NEGL = negligible EST = estimated NF = none found NA = not applicable UNKN = unknown NE = none established REC = recommended ND = none determined V = recommended by vendor SKN = skin TS = trade secret R = recommended MST = mist NT = not tested STEL = short term exposure limit ppm = parts per million ppb = parts per billion By-product= reaction by-product, TSCA inventory status not required under 40 CFR part 720.30(h-2).