

## Safety Data Sheet

## Firestone Building Products Company

## Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

## 1.1 Product identifier

**Product Name** • HailGard™ Polyiso Insulation

## 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Relevant identified use(s)** • Construction

## 1.3 Details of the supplier of the safety data sheet

**Manufacturer** • Firestone Building Products Company  
200 4th Avenue S  
Nashville, TN 37201-2208  
United States

firestonemsds@bfdp.com

**Telephone (General)** • 800-428-4442

## 1.4 Emergency telephone number

**Manufacturer** • (800) 424-9300 - CHEMTREC

**Manufacturer** • (703) 527-3887 - CHEMTREC - International

## Section 2: Hazards Identification

## EU/EEC

According to: Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010]

According to: EU Directive 67/548/EEC (DSD) or 1999/45/EC (DPD)

## 2.1 Classification of the substance or mixture

**CLP**

- Skin Sensitization 1 - H317
- Respiratory Sensitization 1 - H334
- Carcinogenicity 1A - H350
- Specific Target Organ Toxicity Repeated Exposure 1 - H372

**DSD/DPD**

- Irritant (Xi)
- Toxic (T)
- Carcinogenic Substances - Category 1
- R42/43, R45, R48/23

## 2.2 Label Elements

CLP

**DANGER**

**Hazard statements** • H317 - May cause an allergic skin reaction  
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled  
H350 - May cause cancer.  
H372 - Causes damage to organs through prolonged or repeated exposure.

## Precautionary statements

- Prevention** • P201 - Obtain special instructions before use.  
 P202 - Do not handle until all safety precautions have been read and understood.  
 P260 - Do not breathe dust.  
 P264 - Wash thoroughly after handling.  
 P270 - Do not eat, drink or smoke when using this product.  
 P272 - Contaminated work clothing should not be allowed out of the workplace.  
 P281 - Use personal protective equipment as required.  
 P285 - In case of inadequate ventilation wear respiratory protection.
- Response** • P304+P341 - IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.  
 P342+P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.  
 P302+P352 - IF ON SKIN: Wash with plenty of soap and water.  
 P363 - Wash contaminated clothing before reuse.  
 P321 - Specific treatment, see supplemental first aid information.  
 P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.  
 P308+P313 - IF exposed or concerned: Get medical advice/attention.
- Storage/Disposal** • P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

### DSD/DPD



- Risk phrases** • R42/43 - May cause sensitisation by inhalation and skin contact.  
 R45 - May cause cancer.  
 R48/23 - Toxic: danger of serious damage to health by prolonged exposure through inhalation.
- Safety phrases** • S37 - Wear suitable gloves.  
 S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
 S53 - Avoid exposure - obtain special instructions before use.

## 2.3 Other Hazards

- CLP**
- May form combustible dust concentrations in air. According to Regulation (EC) No. 1272/2008 (CLP) this material is considered hazardous.
- DSD/DPD**
- May form combustible dust concentrations in air. According to European Directive 1999/45/EC this material is considered dangerous.

## United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

### 2.1 Classification of the substance or mixture

- OSHA HCS 2012**
- Skin Sensitization 1
  - Respiratory Sensitization 1
  - Carcinogenicity 1A
  - Specific Target Organ Toxicity Repeated Exposure 1
  - Combustible Dust

### 2.2 Label elements

**OSHA HCS 2012**

**DANGER**



- Hazard statements**
- May cause an allergic skin reaction
  - May cause allergy or asthma symptoms or breathing difficulties if inhaled
  - May cause cancer.
  - Causes damage to organs through prolonged or repeated exposure.
  - May form combustible dust concentrations in air.

**Precautionary statements**

- Prevention**
- Obtain special instructions before use.
  - Do not handle until all safety precautions have been read and understood.
  - Do not breathe dust.
  - Wash thoroughly after handling.
  - Do not eat, drink or smoke when using this product.
  - Contaminated work clothing should not be allowed out of the workplace.
  - Wear protective gloves, clothing, and eye/face protection.
  - In case of inadequate ventilation wear respiratory protection.

- Response**
- IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
  - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
  - If on skin: Wash with plenty of water.
  - Wash contaminated clothing before reuse.
  - Specific treatment, see supplemental first aid information.
  - If skin irritation or rash occurs: Get medical advice/attention.
  - IF exposed or concerned: Get medical advice/attention.

- Storage/Disposal**
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

**2.3 Other hazards**

**OSHA HCS 2012**

- Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

**Canada**

According to: WHMIS

**2.1 Classification of the substance or mixture**

- WHMIS**
- Other Toxic Effects - D2A
  - Other Toxic Effects - D2B

**2.2 Label elements**

- WHMIS**
- 

- WHMIS**
- Other Toxic Effects - D2A
  - Other Toxic Effects - D2B

**2.3 Other hazards**

- WHMIS**
- May form combustible dust concentrations in air.
  - In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

**Section 3 - Composition/Information on Ingredients**

**3.1 Substances**

- Material does not meet the criteria of a substance.

**3.2 Mixtures**

Composition					
Chemical Name	Identifiers	%	LD50/LC50	Classifications According to Regulation/Directive	Comments
Wood	NDA	N/A	NDA	<b>EU DSD/DPD:</b> R42/43; Carc. Cat. 1; R45; T; R48/23; <b>EU CLP:</b> Carc. 1A, H350; STOT RE 1 (Lungs), H372; Resp. Sens. 1, H334; Skin Sens. 1, H317; <b>OSHA HCS 2012:</b> Comb. Dust; Carc. 1A; STOT RE 1 (Lungs); Resp. Sens. 1; Skin Sens. 1;	NDA
Polymethylene polyphenyl isocyanate	<b>CAS:</b> 9016-87-9	N/A	Ingestion/Oral-Rat LD50 • 49 g/kg Inhalation-Rat LC50 • 490 mg/m <sup>3</sup> 4 Hour(s) Skin-Rabbit LD50 • >9400 mg/kg	<b>EU DSD/DPD:</b> Xn; R20-48/20; Xn; R42/43; Xi; R36/37/38; Carc. Cat. 3; R40 <b>EU CLP:</b> STOT RE 2, H373; Eye Irrit. 2, H319; STOT SE 3: Resp. Irrit., H335; Skin Irrit. 2, H315; Resp. Sens. 1, H334; Skin Sens. 1, H317; Carc. 2, H351; Acute Tox. 2 (inhl, mist), H330 <b>OSHA HCS 2012:</b> Eye Irrit. 2; Skin Irrit. 2; Skin Sens. 1A; STOT SE 3: Resp. Irrit; Resp. Sens. 1A; STOT RE 1 (Lungs); Acute Tox. 2 (inhl, mist)	NDA
Phenol, polymer with formaldehyde	<b>CAS:</b> 9003-35-4	N/A	Ingestion/Oral-Rat LD50 • >5 g/kg	<b>EU DSD/DPD:</b> Not Classified <b>EU CLP:</b> Not Classified <b>OSHA HCS 2012:</b> Not Classified	NDA
Paraffin	<b>CAS:</b> 8002-74-2 <b>EC Number:</b> 232-315-6	N/A	NDA	<b>EU DSD/DPD:</b> Not Classified <b>EU CLP:</b> Not Classified <b>OSHA HCS 2012:</b> Eye Irrit. 2	NDA
ISO 95+™ GL (Flat and Tapered), ISO 95+™ CAN	NDA	N/A	NDA	<b>EU DSD/DPD:</b> Not Classified <b>EU CLP:</b> Not Classified <b>OSHA HCS 2012:</b> Not Classified	NDA
Pentane [0.05% TO 5.5%]	<b>CAS:</b> 109-66-0 <b>EC Number:</b> 203-692-4 <b>EU Index:</b> 601-006-00-1	N/A	Inhalation-Rat LC50 • 364 g/m <sup>3</sup> 4 Hour(s) Ingestion/Oral-Rat LD50 • >2000 mg/kg	<b>EU DSD/DPD:</b> Annex VI, Table 3.2: F+; R12; N; R51-53; Xn; R65; R66; R67; <b>EU CLP:</b> Annex VI, Table 3.1: Flam. Liq. 2, H225; Asp. Tox. 1, H304; STOT SE 3: Narc., H336; Aquatic Chronic 2, H411; <b>OSHA HCS 2012:</b> Flam. Liq. 1; Asp. Tox. 1; Eye Irrit. 2; Skin Irrit. 2; STOT SE 3: Narc.;	NDA
Glass, oxide, chemicals [< 11%]	<b>CAS:</b> 65997-17-3 <b>EC Number:</b> 266-046-0	N/A	NDA	<b>EU DSD/DPD:</b> Not Classified <b>EU CLP:</b> Not Classified <b>OSHA HCS 2012:</b> Not Classified	NDA
2-Propanol, 1-chloro-, 2,2',2"-phosphate [< 5%]	<b>CAS:</b> 13674-84-5 <b>EC Number:</b> 237-158-7	N/A	Ingestion/Oral-Rat LD50 • 1500 mg/kg	<b>EU DSD/DPD:</b> Xn; R22 <b>EU CLP:</b> Acute Tox. 4, H302; <b>OSHA HCS 2012:</b> Acute Tox. 4 (orl)	NDA
2-Methylbutane (In Liquid form) [4.5% TO 9.9%]	<b>CAS:</b> 78-78-4 <b>EC Number:</b> 201-142-8 <b>EU Index:</b> 601-085-00-2	N/A	Inhalation-Rat LC50 • 280000 mg/m <sup>3</sup> 4 Hour(s)	<b>EU DSD/DPD:</b> Annex VI, Table 3.2: R12; N; R51-53; Xn; R65; R66; R67 <b>EU CLP:</b> Annex VI, Table 3.1: Flam. Liq. 1, H224; Asp. Tox. 1, H304; STOT SE 3, H336; Aquatic Chronic 2, H411; EUH066 <b>OSHA HCS 2012:</b> Flam Liq 1; Eye Irrit 2, Skin Irrit 2, STOT SE 3: Resp. Irrit. & Narc., Asp. Tox. 1;	NDA

See Section 16 for full text of H-statements and R-phrases.

## Section 4 - First Aid Measures

## 4.1 Description of first aid measures

- Inhalation**
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. If signs/symptoms continue, get medical attention.
- Skin**
- Wash skin with soap and water. If irritation develops and persists, get medical attention.
- Eye**
- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. If eye irritation persists: Get medical advice/attention.
- Ingestion**
- Do NOT induce vomiting. Get medical attention immediately.

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

- Refer to Section 11 - Toxicological Information.

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

- Notes to Physician**
- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

## Section 5 - Firefighting Measures

### 5.1 Extinguishing media

- Suitable Extinguishing Media**
- LARGE FIRE: Water spray, fog or regular foam.  
SMALL FIRES: Dry chemical, CO<sub>2</sub>, water spray or regular foam.
- Unsuitable Extinguishing Media**
- None known.

### 5.2 Special hazards arising from the substance or mixture

- Unusual Fire and Explosion Hazards**
- Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Burning of this product will produce thick black smoke. Toxic fumes and vapors may be produced.
- Hazardous Combustion Products**
- Carbon dioxide and carbon monoxide, phosphorus oxides, and phosphoric acid.

### 5.3 Advice for firefighters

- Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

## Section 6 - Accidental Release Measures

### 6.1 Personal precautions, protective equipment and emergency procedures

- Personal Precautions**
- Ventilate enclosed areas. Wear appropriate personal protective equipment, avoid direct contact. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Emergency Procedures**
- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep unauthorized personnel away. Stay upwind.

### 6.2 Environmental precautions

- Prevent entry into waterways and sewers.

### 6.3 Methods and material for containment and cleaning up

- Containment/Clean-up Measures**
- Avoid generating dust. Dust Deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration.

Sweep up while carefully monitoring dust concentrations in the air or vacuum using vacuum equipped with a HEPA filter.

## 6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

## Section 7 - Handling and Storage

### 7.1 Precautions for safe handling

#### Handling

- Use only with adequate ventilation. Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Keep away from heat, sparks, and flame. Wear appropriate personal protective equipment, avoid direct contact. Do not breathe dust. Avoid contact with skin, eyes, and clothing. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

### 7.2 Conditions for safe storage, including any incompatibilities

#### Storage

- Keep container closed. Store in a cool, dry, well-ventilated place.

### 7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

## Section 8 - Exposure Controls/Personal Protection

### 8.1 Control parameters

Exposure Limits/Guidelines						
	Result	ACGIH	Australia	Belgium	Canada Alberta	Canada British Columbia
Paraffin (8002-74-2)	TWAs	2 mg/m <sup>3</sup> TWA (fume)	2 mg/m <sup>3</sup> TWA (fume)	2 mg/m <sup>3</sup> TWA (fume)	2 mg/m <sup>3</sup> TWA (fume)	2 mg/m <sup>3</sup> TWA (fume)
Polymethylene polyphenyl isocyanate (9016-87-9)	TWAs	Not established	Not established	Not established	0.005 ppm TWA; 0.07 mg/m <sup>3</sup> TWA	Not established
Pentane (109-66-0)	STELs	Not established	750 ppm STEL; 2210 mg/m <sup>3</sup> STEL	750 ppm STEL; 2250 mg/m <sup>3</sup> STEL	Not established	Not established
	TWAs	600 ppm TWA (listed under Pentane, all isomers)	600 ppm TWA; 1770 mg/m <sup>3</sup> TWA	600 ppm TWA; 1800 mg/m <sup>3</sup> TWA	600 ppm TWA; 1770 mg/m <sup>3</sup> TWA	600 ppm TWA (listed under Pentane, all isomers)
2-Methylbutane (In Liquid form) (78-78-4)	STELs	Not established	Not established	750 ppm STEL (as Pentane); 2250 mg/m <sup>3</sup> STEL (as Pentane)	Not established	Not established
	TWAs	600 ppm TWA (listed under Pentane, all isomers)	Not established	600 ppm TWA (as Pentane); 1800 mg/m <sup>3</sup> TWA (as Pentane)	600 ppm TWA; 1770 mg/m <sup>3</sup> TWA	600 ppm TWA (listed under Pentane, all isomers)
Exposure Limits/Guidelines (Con't.)						
	Result	Canada Manitoba	Canada New Brunswick	Canada Northwest Territories	Canada Nova Scotia	Canada Nunavut
Paraffin (8002-74-2)	TWAs	2 mg/m <sup>3</sup> TWA (fume)	2 mg/m <sup>3</sup> TWA (fume)	2 mg/m <sup>3</sup> TWA (fume)	2 mg/m <sup>3</sup> TWA (fume)	2 mg/m <sup>3</sup> TWA (fume)
	STELs	Not established	Not established	6 mg/m <sup>3</sup> STEL (fume)	Not established	6 mg/m <sup>3</sup> STEL (fume)

Pentane (109-66-0)	TWAs	600 ppm TWA (listed under Pentane, all isomers)	600 ppm TWA; 1770 mg/m <sup>3</sup> TWA	600 ppm TWA; 1771 mg/m <sup>3</sup> TWA	600 ppm TWA (listed under Pentane, all isomers)	600 ppm TWA; 1771 mg/m <sup>3</sup> TWA
	STELs	Not established	750 ppm STEL; 2210 mg/m <sup>3</sup> STEL	750 ppm STEL; 2213 mg/m <sup>3</sup> STEL	Not established	750 ppm STEL; 2213 mg/m <sup>3</sup> STEL
2-Methylbutane (In Liquid form) (78-78-4)	TWAs	600 ppm TWA (listed under Pentane, all isomers)	Not established	Not established	600 ppm TWA (listed under Pentane, all isomers)	Not established
<b>Exposure Limits/Guidelines (Con't.)</b>						
	<b>Result</b>	<b>Canada Ontario</b>	<b>Canada Quebec</b>	<b>Canada Saskatchewan</b>	<b>Canada Yukon</b>	<b>China</b>
Paraffin (8002-74-2)	STELs	Not established	Not established	Not established	6 mg/m <sup>3</sup> STEL (fume)	4 mg/m <sup>3</sup> STEL (fume)
	TWAs	2 mg/m <sup>3</sup> TWA (fume)	2 mg/m <sup>3</sup> TWAEV (fume)	2 mg/m <sup>3</sup> TWA	2 mg/m <sup>3</sup> TWA (fume)	2 mg/m <sup>3</sup> TWA (fume)
Pentane (109-66-0)	STELs	Not established	Not established	Not established	750 ppm STEL; 2250 mg/m <sup>3</sup> STEL	1000 mg/m <sup>3</sup> STEL (listed under Pentane (all isomers))
	TWAs	600 ppm TWA	120 ppm TWAEV; 350 mg/m <sup>3</sup> TWAEV	600 ppm TWA	600 ppm TWA; 1800 mg/m <sup>3</sup> TWA	500 mg/m <sup>3</sup> TWA (listed under Pentane (all isomers))
2-Methylbutane (In Liquid form) (78-78-4)	STELs	Not established	Not established	Not established	Not established	1000 mg/m <sup>3</sup> STEL (listed under Pentane (all isomers))
	TWAs	600 ppm TWA (listed under Pentane, all isomers)	Not established	600 ppm TWA (listed under Pentane, all isomers)	Not established	500 mg/m <sup>3</sup> TWA (listed under Pentane (all isomers))
<b>Exposure Limits/Guidelines (Con't.)</b>						
	<b>Result</b>	<b>Cyprus</b>	<b>Denmark</b>	<b>Europe</b>	<b>Germany DFG</b>	<b>Germany TRGS</b>
Paraffin (8002-74-2)	TWAs	Not established	2 mg/m <sup>3</sup> TWA (fume)	Not established	Not established	Not established
Polymethylene polyphenyl isocyanate (9016-87-9)	TWAs	Not established	Not established	Not established	Not established	0.05 mg/m <sup>3</sup> TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, inhalable fraction, as MDI, exposure factor 1)
	Ceilings	Not established	Not established	Not established	0.05 mg/m <sup>3</sup> Peak (inhalable fraction)	Not established
	MAKs	Not established	Not established	Not established	0.05 mg/m <sup>3</sup> TWA MAK (inhalable fraction)	Not established
	TWAs	1000 ppm TWA; 3000 mg/m <sup>3</sup> TWA	500 ppm TWA; 1500 mg/m <sup>3</sup> TWA	1000 ppm TWA; 3000 mg/m <sup>3</sup> TWA	Not established	1000 ppm TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, exposure factor 2); 3000 mg/m <sup>3</sup> TWA AGW

Pentane (109-66-0)						(The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, exposure factor 2)
	Ceilings	Not established	Not established	Not established	2000 ppm Peak (listed under Pentane); 6000 mg/m3 Peak (listed under Pentane)	Not established
	MAKs	Not established	Not established	Not established	1000 ppm TWA MAK; 3000 mg/m3 TWA MAK	Not established
2-Methylbutane (In Liquid form) (78-78-4)	TWAs	1000 ppm TWA; 3000 mg/m3 TWA	500 ppm TWA; 1500 mg/m3 TWA	1000 ppm TWA; 3000 mg/m3 TWA	Not established	1000 ppm TWA AGW (exposure factor 2); 3000 mg/m3 TWA AGW (exposure factor 2)
	Ceilings	Not established	Not established	Not established	2000 ppm Peak (listed under Pentane); 6000 mg/m3 Peak (listed under Pentane)	Not established
	MAKs	Not established	Not established	Not established	1000 ppm TWA MAK; 3000 mg/m3 TWA MAK	Not established

**Exposure Limits/Guidelines (Con't.)**

	Result	NIOSH	OSHA
Paraffin (8002-74-2)	TWAs	2 mg/m3 TWA (fume)	Not established
Pentane (109-66-0)	TWAs	120 ppm TWA; 350 mg/m3 TWA	1000 ppm TWA; 2950 mg/m3 TWA
	Ceilings	610 ppm Ceiling (15 min); 1800 mg/m3 Ceiling (15 min)	Not established

**Exposure Control Notations**

**Germany TRGS**

- Phenol, polymer with formaldehyde (9003-35-4): **Sensitizers:** (Skin sensitizer (Not cured; May cause sensitization by skin contact; May cause an allergic skin reaction, listed under Substances or substance groups with sufficient scientific evidence showing sensitizing effects))
- Polymethylene polyphenyl isocyanate (9016-87-9): **Carcinogens:** (Category 3 (as inhalable aerosol, alveola fraction)) | **Developmental Toxins:** (Based on current data, this substance cannot be classified in categories 1-3 (as inhalable aerosol, alveoli fraction)) | **Reproductive Toxins:** (Based on current data, this substance cannot be classified in categories 1-3 (as inhalable aerosol, alveola fraction)) | **Germ Cell Mutagens:** (Based on current data, this substance cannot be classified in categories 1-3 (as inhalable aerosol, alveola fraction)) | **Skin:** (skin notation (calculated as MDI))

**Germany DFG**

- Polymethylene polyphenyl isocyanate (9016-87-9): **Carcinogens:** (Category 4 (no significant contribution to human cancer)) | **Pregnancy:** (no risk to embryo/fetus if exposure limits adhered to (inhalable fraction)) | **Sensitizers:** (respiratory and skin sensitizer (inhalable fraction)) | **Skin:** (skin notation)
- Pentane (109-66-0): **Pregnancy:** (no risk to embryo/fetus if exposure limits adhered to)
- 2-Methylbutane (In Liquid form) (78-78-4): **Pregnancy:** (no risk to embryo/fetus if exposure limits adhered to)

**Exposure Limits Supplemental**

**ACGIH**

- Paraffin (8002-74-2): **TLV Basis - Critical Effects:** (nausea (fume); upper respiratory tract irritation (fume))



- Pentane (109-66-0): **TLV Basis - Critical Effects:** (peripheral neuropathy (listed under Pentane, all isomers)) | **Notice of Intended Changes (TLVs):** (1000 ppm TWA; TLV basis: narcosis, respiratory tract irritation (listed under Pentane, all isomers))
- 2-Methylbutane (In Liquid form) (78-78-4): **TLV Basis - Critical Effects:** (peripheral neuropathy (listed under Pentane, all isomers)) | **Notice of Intended Changes (TLVs):** (1000 ppm TWA; TLV basis: narcosis, respiratory tract irritation (listed under Pentane, all isomers))

## 8.2 Exposure controls

### Engineering Measures/Controls

- This material is designed to be used outdoors, in roofing applications. Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

### Personal Protective Equipment

#### Respiratory

- Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced.

#### Eye/Face

- Wear protective eyewear (goggles, face shield, or safety glasses).

#### Skin/Body

- Wear appropriate gloves.

### Environmental Exposure Controls

- Dispose of waste product in accordance with national and local laws and regulations.

#### Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene

STEL = Short Term Exposure Limits are based on 15-minute exposures

MAK = Maximale Arbeitsplatz Konzentration is the maximum permissible concentration

TLV = Threshold Limit Value determined by the American Conference of Governmental Industrial Hygienists (ACGIH)

NIOSH = National Institute of Occupational Safety and Health

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

OSHA = Occupational Safety and Health Administration

TWAEV = Time-Weighted Average Exposure Value

## Section 9 - Physical and Chemical Properties

### 9.1 Information on Basic Physical and Chemical Properties

Material Description			
Physical Form	Solid	Appearance/Description	Solid
Color	Data lacking	Odor	Data lacking
Odor Threshold	Data lacking		
General Properties			
Boiling Point	Data lacking	Melting Point/Freezing Point	Data lacking
Decomposition Temperature	Data lacking	pH	Data lacking
Specific Gravity/Relative Density	Data lacking	Water Solubility	Data lacking
Viscosity	Data lacking	Explosive Properties	Data lacking
Oxidizing Properties:	Data lacking		
Volatility			
Vapor Pressure	Data lacking	Vapor Density	Data lacking
Evaporation Rate	Data lacking		
Flammability			
Flash Point	Data lacking	UEL	Data lacking
LEL	Data lacking	Autoignition	Data lacking
Flammability (solid, gas)	Data lacking		
Environmental			
Octanol/Water Partition coefficient	Data lacking		

### 9.2 Other Information

- No additional physical and chemical parameters noted.

## Section 10: Stability and Reactivity

### 10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

### 10.2 Chemical stability

- Stable

### 10.3 Possibility of hazardous reactions

- Hazardous polymerization will not occur.

### 10.4 Conditions to avoid

- Avoid generating dust. Keep away from heat, sparks and flame.

### 10.5 Incompatible materials

- Oxidizing agents.

### 10.6 Hazardous decomposition products

- Thermal decomposition (i.e. smoldering, burning) can release carbon monoxide, oxides of nitrogen, carbon dioxide, aliphatic aldehydes including formaldehyde, resin acids, terpenes and polycyclic aromatic hydrocarbons. Natural decomposition of organic materials such as wood may produce toxic gases and an oxygen deficient atmosphere in enclosed or poorly ventilated areas.

## Section 11 - Toxicological Information

### 11.1 Information on toxicological effects

Components		
Phenol, polymer with formaldehyde (N/A)	9003-35-4	<b>Acute Toxicity:</b> Ingestion/Oral-Rat LD50 • >5 g/kg; Skin-Rat LD50 • >2 g/kg
Polymethylene polyphenyl isocyanate (N/A)	9016-87-9	<b>Acute Toxicity:</b> Ingestion/Oral-Rat LD50 • 49 g/kg; <b>Behavioral:Somnolence (general depressed activity); Gastrointestinal:Hypermotility, diarrhea; Nutritional and Gross Metabolic:Changes in Chemistry or Temperature:Body temperature decrease;</b> Inhalation-Rat LC50 • 490 mg/m <sup>3</sup> 4 Hour(s); <b>Sense Organs and Special Senses:Eye:Other; Lungs, Thorax, or Respiration:Respiratory depression; Blood:Hemorrhage;</b> Skin-Rabbit LD50 • >9400 mg/kg; <b>Irritation:</b> Eye-Rabbit • 100 mg • Mild irritation; <b>Reproductive:</b> Inhalation-Rat TClO • 12 mg/m <sup>3</sup> 6 Hour(s)(6-15D preg); <b>Reproductive Effects:Maternal Effects:Other effects; Reproductive Effects:Effects on Embryo or Fetus:Extra embryonic structures; Reproductive Effects:Specific Developmental Abnormalities:Musculoskeletal system</b>
Paraffin (N/A)	8002-74-2	<b>Irritation:</b> Eye-Rabbit • 100 mg 24 Hour(s) • Mild irritation; Skin-Rabbit • 500 mg 24 Hour(s) • Mild irritation
Pentane (N/A)	109-66-0	<b>Acute Toxicity:</b> Ingestion/Oral-Rat LD50 • >2000 mg/kg; Inhalation-Rat LC50 • 364 g/m <sup>3</sup> 4 Hour(s)
2-Methylbutane (In Liquid form) (N/A)	78-78-4	<b>Acute Toxicity:</b> Inhalation-Rat LC50 • 280000 mg/m <sup>3</sup> 4 Hour(s)
2-Propanol, 1-chloro-, 2,2',2"-phosphate (N/A)	13674-84-5	<b>Acute Toxicity:</b> Ingestion/Oral-Rat LD50 • 1500 mg/kg; <b>Behavioral:Tremor; Behavioral:Convulsions or effect on seizure threshold</b>

### GHS Properties

### Classification

<b>Acute toxicity</b>	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
<b>Skin corrosion/Irritation</b>	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
<b>Serious eye damage/Irritation</b>	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
<b>Skin sensitization</b>	EU/CLP • Skin Sensitizer 1 OSHA HCS 2012 • Skin Sensitizer 1
<b>Respiratory sensitization</b>	EU/CLP • Respiratory Sensitizer 1 OSHA HCS 2012 • Respiratory Sensitizer 1
<b>Aspiration Hazard</b>	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
<b>Carcinogenicity</b>	EU/CLP • Carcinogenicity 1A OSHA HCS 2012 • Carcinogenicity 1A
<b>Germ Cell Mutagenicity</b>	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
<b>Toxicity for Reproduction</b>	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
<b>STOT-SE</b>	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
<b>STOT-RE</b>	EU/CLP • Specific Target Organ Toxicity Repeated Exposure 1 OSHA HCS 2012 • Specific Target Organ Toxicity Repeated Exposure 1

## Potential Health Effects

### Inhalation

#### Acute (Immediate)

- Exposure to dust may cause irritation. Processes such as cutting, grinding, crushing, or impact may result in generation of excessive amounts of airborne dusts in the workplace. Nuisance dust may affect the lungs but reactions are typically reversible.

#### Chronic (Delayed)

- Prolonged exposure to the dust may cause wheezing, chest tightness, productive cough nasal irritation and symptoms of chronic respiratory disease. Wood dust, depending on the species, may cause respiratory sensitization with prolonged, repetitive contact or exposure to elevated dust levels.

### Skin

#### Acute (Immediate)

- Exposure to dust may cause mechanical irritation. May cause skin sensitization. Symptoms include redness, and skin rash.

#### Chronic (Delayed)

- No data available.

### Eye

#### Acute (Immediate)

- Exposure to dust may cause mechanical irritation. Excessive concentrations of nuisance dust in the workplace may reduce visibility and may cause unpleasant deposits in eyes.

#### Chronic (Delayed)

- No data available.

### Ingestion

#### Acute (Immediate)

- Excessive concentrations of nuisance dust in the workplace may cause mechanical irritation to mucous membranes.

#### Chronic (Delayed)

- No data available

### Carcinogenic Effects

- May cause cancer. According to its Twelfth Report on Carcinogens NTP states, "many case reports and epidemiological studies (including cohort studies and case-control studies that specifically addressed nasal cancer) have found a strong association between exposure to wood dust and cancer of the nasal cavity. Strong and consistent associations with cancer of the nasal cavity and paranasal sinuses

were observed both in studies of people whose occupations were associated with wood-dust exposure and in studies that directly estimated wood dust exposure." IARC has most recently concluded that "there is sufficient evidence in humans for the carcinogenicity of wood dust. Wood dust causes cancer of the nasal cavity and paranasal sinuses and of the nasopharynx."

**Key to abbreviations**

- LC = Lethal Concentration
- LD = Lethal Dose
- TC = Toxic Concentration

**Section 12 - Ecological Information**

**12.1 Toxicity**

- Material data lacking.

**12.2 Persistence and degradability**

- Material data lacking.

**12.3 Bioaccumulative potential**

- Material data lacking.

**12.4 Mobility in Soil**

- Material data lacking.

**12.5 Results of PBT and vPvB assessment**

- PBT and vPvB assessment has not been carried out.

**12.6 Other adverse effects**

- No studies have been found.

**Section 13 - Disposal Considerations**

**13.1 Waste treatment methods**

**Product waste**

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

**Packaging waste**

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

**Section 14 - Transport Information**

	<b>14.1 UN number</b>	<b>14.2 UN proper shipping name</b>	<b>14.3 Transport hazard class(es)</b>	<b>14.4 Packing group</b>	<b>14.5 Environmental hazards</b>
<b>DOT</b>	NDA	Not Regulated	NDA	NDA	NDA
<b>TDG</b>	NDA	Not Regulated	NDA	NDA	NDA
<b>IMO/IMDG</b>	NDA	Not Regulated	NDA	NDA	NDA
<b>ADN</b>	NDA	Not Regulated	NDA	NDA	NDA
<b>ADR/RID</b>	NDA	Not Regulated	NDA	NDA	NDA
<b>IATA/ICAO</b>	NDA	Not Regulated	NDA	NDA	NDA

**14.6 Special precautions for** • None specified.

user

**14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**

- Data lacking.

## Section 15 - Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**SARA Hazard Classifications** • Chronic, Fire

State Right To Know				
Component	CAS	MA	NJ	PA
2-Methylbutane (In Liquid form)	78-78-4	Yes	Yes	Yes
2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	No	No	No
Glass, oxide, chemicals	65997-17-3	No	No	No
Paraffin	8002-74-2	Yes	Yes	Yes
Pentane	109-66-0	Yes	Yes	Yes
Phenol, polymer with formaldehyde	9003-35-4	No	No	No
Polymethylene polyphenyl isocyanate	9016-87-9	No	Yes	No

Inventory						
Component	CAS	Canada DSL	Canada NDSL	China	EU EINECS	EU ELNICS
2-Methylbutane (In Liquid form)	78-78-4	Yes	No	Yes	Yes	No
2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Yes	No	Yes	Yes	No
Glass, oxide, chemicals	65997-17-3	Yes	No	Yes	Yes	No
Paraffin	8002-74-2	Yes	No	Yes	Yes	No
Pentane	109-66-0	Yes	No	Yes	Yes	No
Phenol, polymer with formaldehyde	9003-35-4	Yes	No	Yes	No	No
Polymethylene polyphenyl isocyanate	9016-87-9	Yes	No	Yes	No	No

Inventory (Con't.)				
Component	CAS	Japan ENCS	Korea KECL	TSCA
2-Methylbutane (In Liquid form)	78-78-4	Yes	Yes	Yes
2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Yes	Yes	Yes
Glass, oxide, chemicals	65997-17-3	Yes	Yes	Yes

Paraffin	8002-74-2	Yes	Yes	Yes
Pentane	109-66-0	Yes	Yes	Yes
Phenol, polymer with formaldehyde	9003-35-4	Yes	Yes	Yes
Polymethylene polyphenyl isocyanate	9016-87-9	Yes	Yes	Yes

## Australia

### Labor

#### Australia - Work Health and Safety Regulations - Hazardous Substances Requiring Health Monitoring

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

#### Australia - High Volume Industrial Chemicals List

• Paraffin	8002-74-2	
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

#### Australia - List of Designated Hazardous Substances - Classification

• Paraffin	8002-74-2	Self classification required (fume)
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Xn, Xi R20, R36/37/38, R42
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	F+, Xn, N R12, R65, R66, R67, R51, R53
• 2-Methylbutane (In Liquid form)	78-78-4	F+, Xn, N R12, R65, R66, R67, R51, R53
• Glass, oxide, chemicals	65997-17-3	Not Listed

### Environment

#### Australia - National Pollutant Inventory (NPI) Substance List

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

#### Australia - Ozone Protection Act - Scheduled Substances

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed

• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

**Australia - Priority Existing Chemical Program**

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Candidate chemical
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

**Belgium****Labor****Belgium - Substances and Preparations - Carcinogens and Mutagens**

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

**Bulgaria****Environment****Bulgaria - Air Quality - Maximum Admissible Hazardous Contaminant Levels - 24 Hour**

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	25.0 mg/m3 MAHCL
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

**Bulgaria - Air Quality - Maximum Admissible Hazardous Contaminant Levels - 30 Minute**

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	100.0 mg/m3 MAHCL
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

**Bulgaria - Air Quality - Maximum Admissible Hazardous Contaminant Levels - Annual**

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

## Canada

### Labor

#### Canada - WHMIS - Classifications of Substances

• Paraffin	8002-74-2	Uncontrolled product according to WHMIS classification criteria
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	D1A, D2A, D2B
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	B2
• 2-Methylbutane (In Liquid form)	78-78-4	B2
• Glass, oxide, chemicals	65997-17-3	Not Listed

#### Canada - WHMIS - Ingredient Disclosure List

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	1 %
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

### Environment

#### Canada - CEPA - Priority Substances List

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

## Canada New Brunswick

### Environment

#### Canada - New Brunswick - Ozone Depleting Substances - Schedule A

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

#### Canada - New Brunswick - Ozone Depleting Substances - Schedule B

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

## China



**Other****China - Annex I & II - Controlled Chemicals Lists**

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

**Denmark****Environment****Denmark - List of Undesirable Substances - Product Groups/Function**

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Binders; Flame retardants; Insulation materials; Construction materials; Glues; Paints; Coatings; Raw materials; Foaming agents; Fillers
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

**Europe****Other****EU - CLP (1272/2008) - Annex VI - Table 3.2 - Classification**

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	F+; R12 N; R51-53 Xn; R65 R66 R67
• 2-Methylbutane (In Liquid form)	78-78-4	F+; R12 N; R51-53 Xn; R65 R66 R67
• Glass, oxide, chemicals	65997-17-3	Not Listed

**EU - CLP (1272/2008) - Annex VI - Table 3.2 - Concentration Limits**

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

**EU - CLP (1272/2008) - Annex VI - Table 3.2 - Labelling**

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed

• Pentane	109-66-0	F+ Xn N R:12-51/53-65-66-67 S:(2)-9-16-29-33-61-62
• 2-Methylbutane (In Liquid form)	78-78-4	F+ Xn N R:12-51/53-65-66-67 S:(2)-9-16-29-33-61-62
• Glass, oxide, chemicals	65997-17-3	Not Listed

**EU - CLP (1272/2008) - Annex VI - Table 3.2 - Notes - Substances and Preparations**

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	C
• 2-Methylbutane (In Liquid form)	78-78-4	C
• Glass, oxide, chemicals	65997-17-3	Not Listed

**EU - CLP (1272/2008) - Annex VI - Table 3.2 - Safety Phrases**

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	S:(2)-9-16-29-33-61-62
• 2-Methylbutane (In Liquid form)	78-78-4	S:(2)-9-16-29-33-61-62
• Glass, oxide, chemicals	65997-17-3	Not Listed

**Germany****Labor****Germany - Immission Control - Qualifying Quantities for Major Accident Prevention**

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

**Germany - Immission Control - Qualifying Quantities for Safety Reporting**

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

**Germany - TRGS 505 - Specific Lead Regulations**

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

**Germany - TRGS 511 - Specific Ammonium Nitrate Regulations**

• Paraffin	8002-74-2	Not Listed
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• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

## Environment

### Germany - TA Luft - Types and Classes

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

### Germany - TA Luft - Emission Limits for Carcinogenic Substances

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

### Germany - TA Luft - Emission Limits for Fibers

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

### Germany - TA Luft - Emission Limits for Inorganic Dusts

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

### Germany - TA Luft - Emission Limits for Inorganic Gases

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

### Germany - TA Luft - Emission Limits for Organic Substances

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

**Germany - Water Classification (VwVwS) - Annex 1**

• Paraffin	8002-74-2	ID Number 268, not considered hazardous to water
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

**Germany - Water Classification (VwVwS) - Annex 2 - Water Hazard Classes**

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	ID Number 452, hazard class 2 - hazard to waters
• 2-Methylbutane (In Liquid form)	78-78-4	ID Number 648, hazard class 2 - hazard to waters
• Glass, oxide, chemicals	65997-17-3	Not Listed

**Germany - Water Classification (VwVwS) - Annex 3**

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	ID Number 2013, hazard class 1 - low hazard to waters
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	ID Number 2408, hazard class 1 - low hazard to waters
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

**United States****Labor****U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals**

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

**U.S. - OSHA - Specifically Regulated Chemicals**

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed

• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

## Environment

### U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

### U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

### U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

### U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

### U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

### U.S. - CERCLA/SARA - Section 313 - Emission Reporting

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed

1.0 % de minimis

• Polymethylene polyphenyl isocyanate	9016-87-9	concentration (listed under Chemical Category N120, Diisocyanates)
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

**U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing**

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

**United States - California****Environment****U.S. - California - Proposition 65 - Carcinogens List**

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

**U.S. - California - Proposition 65 - Developmental Toxicity**

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

**U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)**

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

**U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)**

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

**U.S. - California - Proposition 65 - Reproductive Toxicity - Female**

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

**U.S. - California - Proposition 65 - Reproductive Toxicity - Male**

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

**United States - Pennsylvania****Labor****U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List**

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

**U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances**

• Paraffin	8002-74-2	Not Listed
• Phenol, polymer with formaldehyde	9003-35-4	Not Listed
• Polymethylene polyphenyl isocyanate	9016-87-9	Not Listed
• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane (In Liquid form)	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

**15.2 Chemical Safety Assessment**

- No Chemical Safety Assessment has been carried out.

**Section 16 - Other Information****Relevant Phrases (code & full text)**

- H224 - Extremely flammable liquid and vapour
- H225 - Highly flammable liquid and vapour
- H302 - Harmful if swallowed
- H304 - May be fatal if swallowed and enters airways
- H319 - Causes serious eye irritation
- H330 - Fatal if inhaled
- H335 - May cause respiratory irritation
- H336 - May cause drowsiness or dizziness
- H373 - May cause damage to organs through prolonged or repeated exposure.

H411 - Toxic to aquatic life with long lasting effects  
EUH066 - Repeated exposure may cause skin dryness or cracking.  
R12 - Extremely flammable.  
R20 - Harmful by inhalation.  
R22 - Harmful if swallowed.  
R36/37/38 - Irritating to eyes, respiratory system and skin.  
R40 - Limited evidence of a carcinogenic effect.  
R48/20 - Harmful: danger of serious damage to health by prolonged exposure through inhalation.  
R51 - Toxic to aquatic organisms.  
R53 - May cause long-term adverse effects in the aquatic environment.  
R65 - Harmful: may cause lung damage if swallowed.  
R66 - Repeated exposure may cause skin dryness or cracking.  
R67 - Vapours may cause drowsiness and dizziness.

**Revision Date**

- 26/January/2018

**Preparation Date**

- 30/March/2015

**Other Information**

- Changes to this revision: Updated mailing address.

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**Key to abbreviations**

NDA = No Data Available