

# SAFETY DATA SHEET



Date of issue/Date of revision 4 February 2026

Version 11.01

## Section 1. Identification

**Product name** : KL4600 KOL-TAR URETHANE/COAL TAR  
**Product code** : KL4600/02  
**Other means of identification** : Not available.  
**Product type** : Liquid.

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

**Product use** : Professional applications, Used by spraying.  
**Use of the substance/ mixture** : Coating.  
**Uses advised against** : Not applicable.

**Manufacturer** : PPG Industries, Inc.  
One PPG Place  
Pittsburgh, PA 15272

**Emergency telephone number** : (412) 434-4515 (U.S.)  
(514) 645-1320 (Canada)  
SETIQ Interior de la República: 800-00-214-00 (México)  
SETIQ Ciudad de México: (55) 5559-1588 (México)

**Technical Phone Number** : 888-977-4762

## Section 2. Hazards identification

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification of the substance or mixture** : FLAMMABLE LIQUIDS - Category 3  
ACUTE TOXICITY (inhalation) - Category 4  
SKIN IRRITATION - Category 2  
EYE IRRITATION - Category 2A  
RESPIRATORY SENSITIZATION - Category 1  
SKIN SENSITIZATION - Category 1  
GERM CELL MUTAGENICITY - Category 1  
CARCINOGENICITY - Category 1A  
TOXIC TO REPRODUCTION - Category 1B  
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3  
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2  
Percentage of the mixture consisting of ingredient(s) of unknown acute toxicity: 11.8% (oral), 36.1% (dermal), 30% (inhalation)

### GHS label elements

## Section 2. Hazards identification

**Hazard pictograms**

:

**Signal word**

: Danger

**Hazard statements**

: Flammable liquid and vapor.  
Causes skin irritation.  
May cause an allergic skin reaction.  
Causes serious eye irritation.  
Harmful if inhaled.  
May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
May cause respiratory irritation.  
May cause genetic defects.  
May cause cancer.  
May damage fertility or the unborn child.  
May cause damage to organs through prolonged or repeated exposure. (respiratory system)

**Precautionary statements****Prevention**

: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing and eye or face protection. Wear respiratory protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use only outdoors or in a well-ventilated area. Do not breathe vapor. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

**Response**

: IF exposed or concerned: Get medical advice or attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. If experiencing respiratory symptoms: Call a POISON CENTER or doctor. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. If skin irritation or rash occurs: Get medical advice or attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention.

**Storage**

: Store locked up. Store in a well-ventilated place. Keep container tightly closed.

**Disposal**

: Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Supplemental label elements**

: Moisture-sensitive material. Sanding and grinding dusts may be harmful if inhaled. This product contains crystalline silica which can cause lung cancer or silicosis. The risk of cancer depends on the duration and level of exposure to dust from sanding surfaces or mist from spray applications. Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Skin contact to isocyanate monomer may lead to allergic lung reaction. Based on the properties of the isocyanate components and considering toxicological data on similar mixtures, this mixture may cause acute irritation and/or sensitization of the respiratory system, leading to an asthmatic condition, wheezing and tightness of the chest. Sensitized persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the OEL. Repeated exposure may lead to permanent respiratory disability. Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in

## Section 2. Hazards identification

	any process in which this product is used. Avoid contact with skin and clothing. Wash thoroughly after handling. Emits toxic fumes when heated.
<b>Hazards identified when used</b>	: Photosensitive agents : In case of accidental eye contact, avoid direct exposure to the sun or other sources of UV light as severe irritation including burns may result. These reactions can be delayed – get medical attention if pain, irritation or blistering occurs after contact. In case of accidental skin contact, avoid direct exposure to the sun or other sources of UV light as severe irritation including burns may result. These reactions can be delayed – get medical attention if pain, irritation, rash or blistering occurs after contact.
<b>Hazards not otherwise classified</b>	: Prolonged or repeated contact may dry skin and cause irritation.

## Section 3. Composition/information on ingredients

<b>Substance/mixture</b>	: Mixture
<b>Product name</b>	: KL4600 KOL-TAR URETHANE/COAL TAR

Ingredient name	%	CAS number
xylene	10 - 30	1330-20-7
Pitch, coal tar, high-temp.	10 - 30	65996-93-2
diiron trioxide	7 - 13	1309-37-1
Talc , not containing asbestiform fibres	5 - 10	14807-96-6
Isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.-hydro-.omega.-hydroxypoly[oxy(methyl-1,2-ethanediyl)]	1 - 5	53862-89-8
4,4'-methylenediphenyl diisocyanate	1 - 5	101-68-8
Isocyanic acid, polymethylenepolyphenylene ester	1 - 5	9016-87-9
heptan-2-one	1 - 5	110-43-0
4-chloro- $\alpha,\alpha$ -trifluorotoluene	1 - 5	98-56-6
ethylbenzene	0.1 - 1	100-41-4
crystalline silica, respirable powder (<10 microns)	0.1 - 1	14808-60-7
m-tolyldiene diisocyanate	0.1 - 1	26471-62-5

SUB codes represent substances without registered CAS Numbers.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

**Occupational exposure limits, if available, are listed in Section 8.**

## Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

### Description of necessary first aid measures

<b>Eye contact</b>	: Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.
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## Section 4. First aid measures

In case of accidental eye contact, avoid direct exposure to the sun or other sources of UV light as severe irritation including burns may result. These reactions can be delayed – get medical attention if pain, irritation or blistering occurs after contact.

- Inhalation** : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
- Skin contact** : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.  
In case of accidental skin contact, avoid direct exposure to the sun or other sources of UV light as severe irritation including burns may result. These reactions can be delayed – get medical attention if pain, irritation, rash or blistering occurs after contact.
- Ingestion** : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Harmful if inhaled. May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Skin contact** : Causes skin irritation. Defatting to the skin. May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing  
wheezing and breathing difficulties  
asthma  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness  
dryness  
cracking  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

### Indication of immediate medical attention and special treatment needed, if necessary

## Section 4. First aid measures

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

**Specific hazards arising from the chemical** : Flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon oxides  
nitrogen oxides  
halogenated compounds  
carbonyl halides  
metal oxide/oxides  
Cyanate and isocyanate.  
hydrogen cyanide

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

## Section 6. Accidental release measures

- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Methods and materials for containment and cleaning up**
- Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.
- Special provisions** : Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Place in a suitable container. The contaminated area should be cleaned immediately with a suitable decontaminant. One possible (flammable) decontaminant comprises (by volume): water (45 parts), ethanol or isopropyl alcohol (50 parts) and concentrated (d: 0,880) ammonia solution (5 parts). A non-flammable alternative is sodium carbonate (5 parts) and water (95 parts). Add the same decontaminant to the remnants and let stand for several days until no further reaction in an unsealed container. Once this stage is reached, close container and dispose of according to local regulations (see section 13). Do not allow to enter drains or watercourses. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.

## Section 7. Handling and storage

### Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain

## Section 7. Handling and storage

- product residue and can be hazardous. Do not reuse container.
- Special precautions** : Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Vapors are heavier than air and may spread along floors. If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- Conditions for safe storage, including any incompatibilities** : Store between the following temperatures: 0 to 35°C (32 to 95°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Precautions should be taken to minimize exposure to atmospheric humidity or water. CO<sub>2</sub> will be formed, which, in closed containers, could result in pressurization.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
xylene	<b>ACGIH TLV (United States, 1/2025) [p-xylene and mixtures containing p-xylene]</b> Ototoxicant. TWA 8 hours: 20 ppm. <b>OSHA PEL (United States, 5/2018) [Xylenes]</b> TWA 8 hours: 100 ppm. TWA 8 hours: 435 mg/m <sup>3</sup> .
Pitch, coal tar, high-temp.	<b>ACGIH TLV (United States, 1/2025) [Coal tar pitch volatiles]</b> TWA 8 hours: 0.2 mg/m <sup>3</sup> (as benzene soluble aerosol). <b>OSHA PEL (United States, 5/2018) [Coal tar pitch volatiles (benzene soluble fraction), anthracene, BaP, phenanthrene, acridine, chrysene, pyrene]</b> TWA 8 hours: 0.2 mg/m <sup>3</sup> . Form: Benzene soluble.
diiron trioxide	<b>ACGIH TLV (United States, 1/2025)</b> TWA 8 hours: 5 mg/m <sup>3</sup> . Form: Respirable fraction. <b>OSHA PEL (United States, 5/2018)</b> TWA 8 hours: 15 mg/m <sup>3</sup> . Form: Total dust.

**Section 8. Exposure controls/personal protection**

Talc , not containing asbestiform fibres	TWA 8 hours: 5 mg/m <sup>3</sup> . Form: Respirable fraction. <b>ACGIH TLV (United States, 1/2025)</b> TWA 8 hours: 2 mg/m <sup>3</sup> . Form: Respirable fraction. <b>OSHA PEL Z3 (United States)</b> TWA: 2 mg/m <sup>3</sup> . None.
Isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.-hydro-.omega.-hydroxypoly[oxy(methyl-1,2-ethanediy)] 4,4'-methylenediphenyl diisocyanate	<b>ACGIH TLV (United States, 1/2007)</b> TWA 8 hours: 0.05 mg/m <sup>3</sup> . <b>OSHA PEL (United States, 5/2018)</b> CEIL: 0.02 ppm. CEIL: 0.2 mg/m <sup>3</sup> .
Isocyanic acid, polymethylenepolyphenylene ester	<b>CA Alberta Provincial (Canada, 3/2023)</b> OEL 8 hours: 0.07 mg/m <sup>3</sup> . OEL 8 hours: 0.005 ppm.
heptan-2-one	<b>ACGIH TLV (United States, 1/2025)</b> TWA 8 hours: 50 ppm. <b>OSHA PEL (United States, 5/2018)</b> TWA 8 hours: 100 ppm. TWA 8 hours: 465 mg/m <sup>3</sup> .
4-chloro- $\alpha,\alpha,\alpha$ -trifluorotoluene ethylbenzene	None. <b>ACGIH TLV (United States, 1/2025)</b> Ototoxicant. TWA 8 hours: 20 ppm. <b>OSHA PEL (United States, 5/2018)</b> TWA 8 hours: 100 ppm. TWA 8 hours: 435 mg/m <sup>3</sup> .
crystalline silica, respirable powder (<10 microns)	<b>ACGIH TLV (United States, 1/2025) [Silica, crystalline]</b> TWA 8 hours: 0.025 mg/m <sup>3</sup> . Form: Respirable fraction. <b>OSHA PEL Z3 (United States, 6/2016)</b> TWA 8 hours: 250 / (%SiO <sub>2</sub> +5) mppcf. Form: Respirable. TWA 8 hours: 10 / (%SiO <sub>2</sub> +2) mg/m <sup>3</sup> . Form: Respirable.
m-tolyldiene diisocyanate	None.

**Key to abbreviations**

A	= Acceptable Maximum Peak
ACGIH	= American Conference of Governmental Industrial Hygienists.
C	= Ceiling Limit
F	= Fume
IPEL	= Internal Permissible Exposure Limit
OSHA	= Occupational Safety and Health Administration.
R	= Respirable
Z	= OSHA 29 CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances

S	= Potential skin absorption
SR	= Respiratory sensitization
SS	= Skin sensitization
STEL	= Short term Exposure limit values
TD	= Total dust
TLV	= Threshold Limit Value
TWA	= Time Weighted Average

**Consult local authorities for acceptable exposure limits.**

## Section 8. Exposure controls/personal protection

**Recommended monitoring procedures** : Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

**Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Chemical splash goggles.

#### Skin protection

##### **Hand protection**

: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

##### **Gloves**

: butyl rubber

##### **Body protection**

: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

##### **Other skin protection**

: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

##### **Respiratory protection**

: Use an air-fed respirator unless a site-specific assessment determines that an air-fed respirator is not necessary, in which case the results of the risk assessment should be utilized to determine whether respiratory protection is necessary and what type of protection is appropriate. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

The respiratory protection shall be in accordance to 29 CFR 1910.134.

##### **Restrictions on use**

: Persons with a history of asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used.

## Section 9. Physical and chemical properties

### Appearance

Physical state	: Liquid.
Color	: Black.
Odor	: Characteristic.
pH	: Not applicable.
Melting point	: Not available.
Boiling point	: >37.78°C (>100°F)
Flash point	: Closed cup: 30°C (86°F)
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Flammability	: Not available.
Lower and upper explosive (flammable) limits	: Not available.
Vapor pressure	: Not available.
Vapor density	: Not available.
Relative density	: 1.6
Density ( lbs / gal )	: 13.35

Solubility(ies)	<b>Media</b>	<b>Result</b>
	cold water	Not soluble

Partition coefficient: n-octanol/water : Not applicable.

Viscosity : Dynamic (room temperature): Not available.  
Kinematic (room temperature): Not available.  
Kinematic (40°C (104°F)): >21 mm<sup>2</sup>/s (>21 cSt)

% Solid. (w/w) : 78.83

### Particle characteristics

Median particle size : Not applicable.

## Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : In a fire, hazardous decomposition products may be produced.  
Refer to protective measures listed in sections 7 and 8.

Incompatible materials : Keep away from: oxidizing agents, strong alkalis, strong acids, amines, alcohols, water.  
Uncontrolled exothermic reactions occur with amines and alcohols.

## Section 10. Stability and reactivity

**Hazardous decomposition products** : Depending on conditions, decomposition products may include the following materials:  
Cyanate and isocyanate. carbon oxides nitrogen oxides halogenated compounds  
hydrogen cyanide carbonyl halides metal oxide/oxides

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Dose
xylene	Rat - Oral - LD50	4.3 g/kg
	Rabbit - Dermal - LD50	1.7 g/kg
Pitch, coal tar, high-temp.	Rat - Oral - LD50	3300 mg/kg
	Rabbit - Dermal - LD50	>5000 mg/kg
diiron trioxide	Rat - Oral - LD50	10 g/kg
	Rat - Inhalation - LC50 Dusts and mists	>5 mg/l [4 hours]
4,4'-methylenediphenyl diisocyanate	Rat - Oral - LD50	9200 mg/kg
Isocyanic acid, polymethylenepolyphenylene ester	Rat - Oral - LD50	49 g/kg
	Rabbit - Dermal - LD50	>9400 mg/kg
heptan-2-one	Rat - Oral - LD50	1.6 g/kg
	Rabbit - Dermal - LD50	10.206 g/kg
	Rat - Inhalation - LC50 Vapor	16.7 mg/l [4 hours]
4-chloro- $\alpha,\alpha,\alpha$ -trifluorotoluene	Rabbit - Dermal - LD50	>2.7 g/kg
	Rat - Oral - LD50	13 g/kg
	Rat - Inhalation - LC50 Vapor	33080 mg/m <sup>3</sup> [4 hours]
ethylbenzene	Rat - Oral - LD50	3.5 g/kg
	Rabbit - Dermal - LD50	17.8 g/kg
	Rat - Inhalation - LC50 Vapor	17.8 mg/l [4 hours]
m-tolyldiene diisocyanate	Rat - Oral - LD50	5.8 g/kg
	Rabbit - Dermal - LD50	>9440 mg/kg
	Rat - Inhalation - LC50 Vapor	0.48 mg/l [1 hours]
	Rat - Inhalation - LC50 Dusts and mists	107 mg/m <sup>3</sup> [4 hours]

**Product Conclusion** : There are no data available on the mixture itself.

#### Skin corrosion/irritation

Product/ingredient name	Species	Dose	Score
xylene	Rabbit - Skin - Moderate irritant	Amount/concentration applied: 500 mg Duration of treatment/exposure: 24 hours	-
4,4'-methylenediphenyl diisocyanate	Rabbit - Skin - Irritant	-	-

**Conclusion/Summary** : There are no data available on the mixture itself.

#### Serious eye damage/eye irritation

**Conclusion/Summary** : There are no data available on the mixture itself.

#### Respiratory corrosion/irritation

**Conclusion/Summary** : There are no data available on the mixture itself.

## Section 11. Toxicological information

### Sensitization

Product/ingredient name	Species	Result
4,4'-methylenediphenyl diisocyanate	Mouse - skin OECD 429	Result: Sensitizing
	Guinea pig - Respiratory	Result: Sensitizing

### Skin

**Conclusion/Summary** : There are no data available on the mixture itself.

### Respiratory

**Conclusion/Summary** : There are no data available on the mixture itself.

### Mutagenicity

**Conclusion/Summary** : There are no data available on the mixture itself.

### Carcinogenicity

Product/ingredient name	Species	Result
4,4'-methylenediphenyl diisocyanate	Rat - Inhalation - TC OECD 453 0 to 6 mg/m <sup>3</sup> [5 days per week] [2 years]	Result: Positive

**Conclusion/Summary** : There are no data available on the mixture itself.

### Classification

Product/ingredient name	OSHA	IARC	NTP
Xylene	-	3	-
Pitch, coal tar, high-temp.	-	1	-
diiron trioxide	-	3	-
Talc, not containing asbestiform fibres	-	2A	-
4,4'-methylenediphenyl diisocyanate	-	3	-
Isocyanic acid,	-	3	-
polymethylenepolyphenylene ester	-		
4-chloro- $\alpha,\alpha,\alpha$ -trifluorotoluene	-	2B	-
ethylbenzene	-	2B	-
crystalline silica, respirable powder (<10 microns)	+	1	Known to be a human carcinogen.
m-tolyldiene diisocyanate	-	2B	Reasonably anticipated to be a human carcinogen.

Carcinogen Classification code:

IARC: 1, 2A, 2B, 3, 4

NTP: Known to be a human carcinogen; Reasonably anticipated to be a human carcinogen

OSHA: +

Not listed/not regulated: -

### Reproductive toxicity

**Conclusion/Summary** : There are no data available on the mixture itself.

### Specific target organ toxicity (single exposure)

## Section 11. Toxicological information

Product/ingredient name	Result
xylene	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
Talc , not containing asbestiform fibres	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
Isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.-hydro-.omega.-hydroxypoly[oxy(methyl-1,2-ethanediy)]	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
4,4'-methylenediphenyl diisocyanate	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
Isocyanic acid, polymethylenepolyphenylene ester	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
heptan-2-one	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
4-chloro- $\alpha,\alpha,\alpha$ -trifluorotoluene	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
m-tolyldiene diisocyanate	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

### Specific target organ toxicity (repeated exposure)

Product/ingredient name	Result
Isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.-hydro-.omega.-hydroxypoly[oxy(methyl-1,2-ethanediy)]	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (inhalation) - Category 2
4,4'-methylenediphenyl diisocyanate	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (respiratory system) (inhalation) - Category 2
Isocyanic acid, polymethylenepolyphenylene ester	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (inhalation) - Category 2
ethylbenzene	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (hearing organs) - Category 2
crystalline silica, respirable powder (<10 microns)	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (inhalation) - Category 1

### Target organs

- : Contains material which causes damage to the following organs: brain, central nervous system (CNS).
- Contains material which may cause damage to the following organs: blood, kidneys, lungs, the nervous system, liver, bladder, peripheral nervous system, cardiovascular system, upper respiratory tract, skin, adrenal, eye, lens or cornea.

### Aspiration hazard

Product/ingredient name	Result
xylene	ASPIRATION HAZARD - Category 1
ethylbenzene	ASPIRATION HAZARD - Category 1

### Information on the likely routes of exposure

#### Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Harmful if inhaled. May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Skin contact** : Causes skin irritation. Defatting to the skin. May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

## Section 11. Toxicological information

### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing  
wheezing and breathing difficulties  
asthma  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness  
dryness  
cracking  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

### Delayed and immediate effects and also chronic effects from short and long term exposure

- Conclusion/Summary** : There are no data available on the mixture itself. Skin contact to isocyanate monomer may lead to allergic lung reaction. Based on the properties of the isocyanate components and considering toxicological data on similar mixtures, this mixture may cause acute irritation and/or sensitization of the respiratory system, leading to an asthmatic condition, wheezing and tightness of the chest. Repeated exposure may lead to permanent respiratory disability. This product contains crystalline silica which can cause lung cancer or silicosis. The risk of cancer depends on the duration and level of exposure to dust from sanding surfaces or mist from spray applications. Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

### Short term exposure

## Section 11. Toxicological information

**Potential immediate effects** : There are no data available on the mixture itself.

**Potential delayed effects** : There are no data available on the mixture itself.

### Long term exposure

**Potential immediate effects** : There are no data available on the mixture itself.

**Potential delayed effects** : There are no data available on the mixture itself.

### Potential chronic health effects

**Conclusion/Summary** : There are no data available on the mixture itself.

**General** : May cause damage to organs through prolonged or repeated exposure. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**Carcinogenicity** : May cause cancer. Risk of cancer depends on duration and level of exposure.

**Mutagenicity** : May cause genetic defects.

**Reproductive toxicity** : May damage fertility or the unborn child.

### Numerical measures of toxicity

#### Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
KL4600 KOL-TAR URETHANE/COAL TAR	9511.3	6330.0	N/A	31.1	4.1
xylene	4300	1700	N/A	11	1.5
Pitch, coal tar, high-temp.	3300	N/A	N/A	N/A	N/A
diiron trioxide	10000	N/A	N/A	N/A	N/A
Isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.-hydro-.omega.-hydroxypoly[oxy (methyl-1,2-ethanediyl)]	N/A	N/A	N/A	11	1.5
4,4'-methylenediphenyl diisocyanate	9200	N/A	N/A	11	N/A
Isocyanic acid, polymethylenepolyphenylene ester	49000	N/A	N/A	N/A	1.5
heptan-2-one	1600	10206	N/A	16.7	1.5
4-chloro- $\alpha,\alpha,\alpha$ -trifluorotoluene	13000	2500	N/A	33.08	N/A
ethylbenzene	3500	17800	N/A	17.8	1.5
m-tolylidene diisocyanate	5800	N/A	N/A	0.24	0.107

## Section 12. Ecological information

### Toxicity

## Section 12. Ecological information

Product/ingredient name	Result	Species
diiron trioxide	Acute - EC50 OECD 202 >100 mg/l [48 hours]	Daphnia
heptan-2-one	Acute - LC50 131 mg/l [96 hours]	Fish
ethylbenzene	Acute - EC50 - Fresh water 1.8 mg/l [48 hours] Chronic - NOEC - Fresh water 1 mg/l	Daphnia Daphnia - <i>Ceriodaphnia dubia</i>
m-tolyldiene diisocyanate	Acute - EC50 12.5 mg/l [48 hours]	Daphnia

**Conclusion/Summary** : Not available.

### Persistence and degradability

Product/ingredient name	Result
heptan-2-one	OECD 310 69% [28 days] - Readily
ethylbenzene	79% [10 days] - Readily

**Conclusion/Summary** : Not available.

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
xylene	3.12	7.4 to 18.5	Low
Pitch, coal tar, high-temp.	6.04	-	High
4,4'-methylenediphenyl diisocyanate	4.51	-	High
heptan-2-one	2.26	-	Low
ethylbenzene	3.6	79.43	Low
m-tolyldiene diisocyanate	3.43	-	Low

### Mobility in soil

**Soil/Water partition coefficient** : Not available.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered

## Section 13. Disposal considerations

when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

## 14. Transport information

	DOT	IMDG	IATA
UN number	UN1263	UN1263	UN1263
UN proper shipping name	PAINT	PAINT	PAINT
Transport hazard class (es)	3	3	3
Packing group	III	III	III
Environmental hazards	No.	Yes.	Yes. The environmentally hazardous substance mark is not required.
Marine pollutant substances	Not applicable.	(Pitch, coal tar, high-temp.)	Not applicable.
Product RQ (lbs)	620	Not applicable.	Not applicable.
RQ substances	(xylene)	Not applicable.	Not applicable.

### Additional information

- DOT** : Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.
- IMDG** : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.
- IATA** : The environmentally hazardous substance mark may appear if required by other transportation regulations.

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to IMO instruments** : Not applicable.

## Section 15. Regulatory information

### United States

**United States inventory (TSCA 8b)** : At least one component is inactive.

**TSCA 12(b) - Chemical export notification:**

m-tolyldiene diisocyanate

One time notification [Section 5]

**TSCA 5(a)2 - Final significant new use rules:**

4-chloro- $\alpha,\alpha,\alpha$ -trifluorotoluene

Listed

40 CFR 799.5089

**TSCA 5(a)2 - Proposed significant new use rules:**

m-tolyldiene diisocyanate

Listed

80 FR 2068, Jan 15, 2015

### SARA 302/304

**SARA 304 RQ** : Not applicable.

### Composition/information on ingredients

No products were found.

### SARA 311/312

**Classification** : FLAMMABLE LIQUIDS - Category 3  
 ACUTE TOXICITY (inhalation) - Category 4  
 SKIN IRRITATION - Category 2  
 EYE IRRITATION - Category 2A  
 RESPIRATORY SENSITIZATION - Category 1  
 SKIN SENSITIZATION - Category 1  
 GERM CELL MUTAGENICITY - Category 1  
 CARCINOGENICITY - Category 1A  
 TOXIC TO REPRODUCTION - Category 1B  
 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3  
 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2  
 HNOC - Defatting irritant

### Composition/information on ingredients

Name	%	Classification
Xylene	≥10 - ≤20	FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 ASPIRATION HAZARD - Category 1
Pitch, coal tar, high-temp.	≥10 - ≤20	GERM CELL MUTAGENICITY - Category 1B CARCINOGENICITY - Category 1A TOXIC TO REPRODUCTION - Category 1B HNOC - Defatting irritant
Talc , not containing asbestiform fibres	≥5.0 - ≤10	CARCINOGENICITY - Category 1B SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
Isocyanic acid, polymethylenepolyphenylene ester, polymer with .alpha.-hydro-	≥1.0 - ≤5.0	COMBUSTIBLE DUSTS ACUTE TOXICITY (inhalation) - Category 4 SKIN IRRITATION - Category 2

## Section 15. Regulatory information

.omega.-hydroxypoly[oxy(methyl-1,2-ethanediyl)]		EYE IRRITATION - Category 2A RESPIRATORY SENSITIZATION - Category 1A SKIN SENSITIZATION - Category 1B CARCINOGENICITY - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
4,4'-methylenediphenyl diisocyanate	≥1.0 - ≤3.8	ACUTE TOXICITY (inhalation) - Category 4 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A RESPIRATORY SENSITIZATION - Category 1A SKIN SENSITIZATION - Category 1A CARCINOGENICITY - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
Isocyanic acid, polymethylenepolyphenylene ester	≥1.0 - ≤5.0	ACUTE TOXICITY (inhalation) - Category 4 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A RESPIRATORY SENSITIZATION - Category 1A SKIN SENSITIZATION - Category 1A CARCINOGENICITY - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
heptan-2-one	≥1.0 - ≤3.1	FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 HNOC - Defatting irritant
4-chloro-α,α,α-trifluorotoluene	≤1.8	FLAMMABLE LIQUIDS - Category 3 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A CARCINOGENICITY - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 HNOC - Defatting irritant
ethylbenzene	<1.0	FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (inhalation) - Category 4 CARCINOGENICITY - Category 2 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 ASPIRATION HAZARD - Category 1 HNOC - Defatting irritant
crystalline silica, respirable powder (<10 microns)	<1.0	CARCINOGENICITY - Category 1A SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1
m-tolylidene diisocyanate	<1.0	ACUTE TOXICITY (inhalation) - Category 1 SKIN IRRITATION - Category 2

## Section 15. Regulatory information

		EYE IRRITATION - Category 2A RESPIRATORY SENSITIZATION - Category 1A SKIN SENSITIZATION - Category 1A CARCINOGENICITY - Category 1B SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
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### SARA 313

Supplier notification	Chemical name	CAS number	Concentration
	xylene	1330-20-7	10 - 30
	4,4'-methylenediphenyl diisocyanate	101-68-8	1 - 5
	Isocyanic acid, polymethylenepolyphenylene ester	9016-87-9	1 - 5
	ethylbenzene	100-41-4	0.1 - 1
	m-tolylidene diisocyanate	26471-62-5	0.1 - 1

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

**Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.**

### California Prop. 65

 **WARNING:** Cancer - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

## Section 16. Other information

Please refer to Section 2 of this document for GHS hazard classifications.  
 The customer is responsible for determining the PPE code for this material.

**Date of previous issue** : 12/25/2025

**Organization that prepared the SDS** : EHS

**Key to abbreviations** :

- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
- N/A = Not available
- SGG = Segregation Group
- UN = United Nations

 Indicates information that has changed from previously issued version.

### Disclaimer

*The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.*