

SAFETY DATA SHEET



The information in this Safety Data Sheet is required pursuant to Hazardous Product Regulations 2015.

Date of issue/Date of revision 16 January 2020
Version 10

Section 1. Identification

Product name : AMERCOAT 450 GL HARDENER
Product code : 00280749
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.

Supplier : PPG Canada Inc.
5676 Timberlea Blvd
Mississauga ON L4W 4M6
Canada
+1 905-629-7999

PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272

Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 or + 52 55 5559 1588 (Mexico)

Technical Phone Number : 888-977-4762

Section 2. Hazard identification

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 1A
SKIN SENSITIZATION - Category 1A
CARCINOGENICITY - Category 1
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (hearing organs) - Category 2
ASPIRATION HAZARD - Category 1
Health Hazards Not Otherwise Classified - Category 1

GHS label elements

Section 2. Hazard identification

Hazard pictograms**Signal word**

: Danger

Hazard statements

: Flammable liquid and vapor.
Harmful if inhaled.
Causes serious eye irritation.
Causes skin irritation.
Prolonged or repeated contact may dry skin and cause irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
May cause cancer.
May be fatal if swallowed and enters airways.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure. (hearing organs)

Precautionary statements**Prevention**

: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear protective clothing. Wear 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 hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

Response

: Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. If experiencing respiratory symptoms: Call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical 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 attention.

Storage

: Store locked up.

Disposal

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

Supplemental label elements

: Moisture-sensitive material. 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 any process in which this product is used. Avoid contact with skin and clothing. Wash

Section 2. Hazard identification

thoroughly after handling. Emits toxic fumes when heated.

Percentage of the mixture consisting of ingredient(s) of unknown acute toxicity:
15.4% (Dermal), 29.6% (Inhalation)

Section 3. Composition/information on ingredients

| | |
|-------------------------------|----------------------------|
| Substance/mixture | : Mixture |
| Product name | : AMERCOAT 450 GL HARDENER |
| Other means of identification | : Not available. |

CAS number/other identifiers

| Ingredient name | Synonyms | % (w/w) | CAS number |
|---|----------------|------------|------------|
| Hexamethylene diisocyanate, oligomers (Biuret type) | Not available. | 30 - 60* | 28182-81-2 |
| Solvent naphtha (petroleum), light aromatic | Not available. | 10 - 30* | 64742-95-6 |
| 1,2,4-trimethylbenzene | Not available. | 7 - 13* | 95-63-6 |
| 2-methoxy-1-methylethyl acetate | Not available. | 5 - 10* | 108-65-6 |
| xylene | Not available. | 1 - 5* | 1330-20-7 |
| ethylbenzene | Not available. | 1 - 5* | 100-41-4 |
| mesitylene | Not available. | 1 - 5* | 108-67-8 |
| propylbenzene | Not available. | 1 - 5* | 103-65-1 |
| 1,2,3-trimethylbenzene | Not available. | 0.5 - 1.5* | 526-73-8 |
| cumene | Not available. | 0.1 - 1* | 98-82-8 |
| hexamethylene-di-isocyanate | Not available. | 0.1 - 1* | 822-06-0 |

*Any concentration shown as a range is to protect confidentiality.

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

| | |
|---------------------|--|
| Eye contact | : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice. |
| 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. |
| 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. |

Section 4. First-aid measures

Skin contact : Causes skin irritation. Defatting to the skin. May cause an allergic skin reaction.

Ingestion : May be fatal if swallowed and enters airways.

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

Skin contact : Adverse symptoms may include the following:
irritation
redness
dryness
cracking

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

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

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, CO₂, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : Flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon oxides
nitrogen oxides
Cyanate and isocyanate.
hydrogen cyanide

Section 5. Fire-fighting measures

- 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.
- 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. 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 swallow. 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 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. CO₂ will be formed, which, in closed containers, could result in pressurization.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

| <u>Ingredient name</u> | <u>Exposure limits</u> |
|---|---|
| Hexamethylene diisocyanate, oligomers (Biuret type) | IPEL (PPG). TWA: 0.5 mg/m ³ STEL: 1 mg/m ³ |
| Solvent naphtha (petroleum), light aromatic 1,2,4-trimethylbenzene | None. CA Alberta Provincial (Canada, 6/2018). 8 hrs OEL: 123 mg/m ³ 8 hours. 8 hrs OEL: 25 ppm 8 hours. CA British Columbia Provincial (Canada, 5/2019). TWA: 25 ppm 8 hours. |

Section 8. Exposure controls/personal protection

2-methoxy-1-methylethyl acetate

CA Quebec Provincial (Canada, 1/2014).TWAEV: 123 mg/m³ 8 hours.

TWAEV: 25 ppm 8 hours.

CA Ontario Provincial (Canada, 1/2018).

TWA: 25 ppm 8 hours.

CA Saskatchewan Provincial (Canada, 7/2013).

STEL: 30 ppm 15 minutes.

TWA: 25 ppm 8 hours.

CA British Columbia Provincial (Canada, 5/2019).

STEL: 75 ppm 15 minutes.

TWA: 50 ppm 8 hours.

CA Ontario Provincial (Canada, 1/2018).TWA: 270 mg/m³ 8 hours.

TWA: 50 ppm 8 hours.

xylene

CA Alberta Provincial (Canada, 6/2018).15 min OEL: 651 mg/m³ 15 minutes.

15 min OEL: 150 ppm 15 minutes.

8 hrs OEL: 434 mg/m³ 8 hours.

8 hrs OEL: 100 ppm 8 hours.

CA British Columbia Provincial (Canada, 5/2019).

STEL: 150 ppm 15 minutes.

TWA: 100 ppm 8 hours.

CA Quebec Provincial (Canada, 1/2014).STEV: 651 mg/m³ 15 minutes.

STEV: 150 ppm 15 minutes.

TWAEV: 434 mg/m³ 8 hours.

TWAEV: 100 ppm 8 hours.

CA Ontario Provincial (Canada, 1/2018).

STEL: 150 ppm 15 minutes.

TWA: 100 ppm 8 hours.

CA Saskatchewan Provincial (Canada, 7/2013).

STEL: 150 ppm 15 minutes.

TWA: 100 ppm 8 hours.

ethylbenzene

CA Alberta Provincial (Canada, 6/2018).15 min OEL: 543 mg/m³ 15 minutes.

15 min OEL: 125 ppm 15 minutes.

8 hrs OEL: 434 mg/m³ 8 hours.

8 hrs OEL: 100 ppm 8 hours.

CA British Columbia Provincial (Canada, 5/2019).

TWA: 20 ppm 8 hours.

CA Ontario Provincial (Canada, 1/2018).

TWA: 20 ppm 8 hours.

CA Quebec Provincial (Canada, 1/2014).STEV: 543 mg/m³ 15 minutes.

STEV: 125 ppm 15 minutes.

TWAEV: 434 mg/m³ 8 hours.

TWAEV: 100 ppm 8 hours.

CA Saskatchewan Provincial (Canada, 7/2013).

STEL: 125 ppm 15 minutes.

Section 8. Exposure controls/personal protection

TWA: 100 ppm 8 hours.

mesitylene

CA Alberta Provincial (Canada, 6/2018).8 hrs OEL: 123 mg/m³ 8 hours.

8 hrs OEL: 25 ppm 8 hours.

CA British Columbia Provincial (Canada, 5/2019).

TWA: 25 ppm 8 hours.

CA Quebec Provincial (Canada, 1/2014).TWAEV: 123 mg/m³ 8 hours.

TWAEV: 25 ppm 8 hours.

CA Ontario Provincial (Canada, 1/2018).

TWA: 25 ppm 8 hours.

CA Saskatchewan Provincial (Canada, 7/2013).

STEL: 30 ppm 15 minutes.

TWA: 25 ppm 8 hours.

propylbenzene

1,2,3-trimethylbenzene

None.

CA Alberta Provincial (Canada, 6/2018).8 hrs OEL: 123 mg/m³ 8 hours.

8 hrs OEL: 25 ppm 8 hours.

CA British Columbia Provincial (Canada, 5/2019).

TWA: 25 ppm 8 hours.

CA Quebec Provincial (Canada, 1/2014).TWAEV: 123 mg/m³ 8 hours.

TWAEV: 25 ppm 8 hours.

CA Ontario Provincial (Canada, 1/2018).

TWA: 25 ppm 8 hours.

CA Saskatchewan Provincial (Canada, 7/2013).

STEL: 30 ppm 15 minutes.

TWA: 25 ppm 8 hours.

cumene

CA Alberta Provincial (Canada, 6/2018).8 hrs OEL: 246 mg/m³ 8 hours.

8 hrs OEL: 50 ppm 8 hours.

CA British Columbia Provincial (Canada, 5/2019).

STEL: 75 ppm 15 minutes.

TWA: 25 ppm 8 hours.

CA Ontario Provincial (Canada, 1/2018).**Absorbed through skin.**

TWA: 50 ppm 8 hours.

CA Quebec Provincial (Canada, 1/2014).TWAEV: 246 mg/m³ 8 hours.

TWAEV: 50 ppm 8 hours.

CA Saskatchewan Provincial (Canada, 7/2013).

STEL: 74 ppm 15 minutes.

TWA: 50 ppm 8 hours.

hexamethylene-di-isocyanate

CA Alberta Provincial (Canada, 6/2018).8 hrs OEL: 0.03 mg/m³ 8 hours.

8 hrs OEL: 0.005 ppm 8 hours.

CA British Columbia Provincial (Canada, 5/2019). Inhalation sensitizer.

Section 8. Exposure controls/personal protection

C: 0.01 ppm 15 minutes.

TWA: 0.005 ppm 8 hours.

CA Quebec Provincial (Canada, 1/2014).

Skin sensitizer.

TWAEV: 0.034 mg/m³ 8 hours.

TWAEV: 0.005 ppm 8 hours.

CA Ontario Provincial (Canada, 1/2018).

TWA: 0.03 mg/m³ 8 hours.

TWA: 0.01 ppm 8 hours.

CA Saskatchewan Provincial (Canada, 7/2013).

STEL: 0.015 ppm 15 minutes.

TWA: 0.005 ppm 8 hours.

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. 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

Section 8. Exposure controls/personal protection

- 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** : By spraying: air-fed respirator. By other operations than spraying, in well ventilated areas, air-fed respirators could be replaced by a combination charcoal filter and particulate filter mask. 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.
- 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** : Not available.
- Odor** : Amine-like.
- Odor threshold** : Not available.
- pH** : Not available.
- Melting point** : Not available.
- Boiling point** : >37.78°C (>100°F)
- Flash point** : Closed cup: 39°C (102.2°F)
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Evaporation rate** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : Not available.
- Relative density** : 0.99
- Density (lbs / gal)** : 8.26
- Bulk Density (g/cm³)** : 0.99
- Solubility** : Insoluble in the following materials: cold water.
- Partition coefficient: n-octanol/water** : Not available.
- Viscosity** : Kinematic (40°C (104°F)): <0.14 cm²/s (<14 cSt)
- Volatility** : 58% (v/v), 51.25% (w/w)
- % Solid. (w/w)** : 48.75

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.
- Hazardous decomposition products** : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen, hydrogen cyanide, monomeric isocyanates.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---------------------------------|---------|-------------------------|----------|
| Hexamethylene diisocyanate, oligomers (Biuret type) | LD50 Dermal | Rat | >15800 mg/kg | - |
| Solvent naphtha (petroleum), light aromatic | LD50 Oral | Rat | >5000 mg/kg | - |
| | LD50 Dermal | Rabbit | 3.48 g/kg | - |
| 1,2,4-trimethylbenzene | LD50 Oral | Rat | 8400 mg/kg | - |
| | LC50 Inhalation Vapor | Rat | 18000 mg/m ³ | 4 hours |
| 2-methoxy-1-methylethyl acetate | LD50 Oral | Rat | 5 g/kg | - |
| | LD50 Dermal | Rabbit | >5 g/kg | - |
| xylene | LD50 Oral | Rat | 8532 mg/kg | - |
| | LD50 Dermal | Rabbit | >1.7 g/kg | - |
| ethylbenzene | LD50 Oral | Rat | 4.3 g/kg | - |
| | LC50 Inhalation Vapor | Rat | 17.8 mg/l | 4 hours |
| mesitylene | LD50 Dermal | Rabbit | 17.8 g/kg | - |
| | LD50 Oral | Rat | 3.5 g/kg | - |
| propylbenzene | LC50 Inhalation Vapor | Rat | 24000 mg/m ³ | 4 hours |
| | LD50 Oral | Rat | 5000 mg/kg | - |
| 1,2,3-trimethylbenzene cumene | LD50 Oral | Rat | 6040 mg/kg | - |
| | LC50 Inhalation Vapor | Rat | 11.4 g/kg | - |
| hexamethylene-di-isocyanate | LD50 Dermal | Rat | 39000 mg/m ³ | 4 hours |
| | LD50 Dermal | Rabbit | 12.3 g/kg | - |
| | LD50 Oral | Rat | 1400 mg/kg | - |
| | LC50 Inhalation Dusts and mists | Rat | 124 mg/m ³ | 4 hours |
| | LC50 Inhalation Vapor | Rat | 151 mg/m ³ | 4 hours |
| | LC50 Inhalation Vapor | Rat | 22 ppm | 4 hours |
| | LD50 Dermal | Rabbit | 0.57 g/kg | - |
| | LD50 Oral | Rat | 0.71 g/kg | - |

Section 11. Toxicological information

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

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|-------------------------|--------------------------|---------|-------|-----------------|-------------|
| Xylene | Skin - Moderate irritant | Rabbit | - | 24 hours 500 mg | - |

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Sensitization

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

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

Carcinogenicity

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

Classification

| Product/ingredient name | OSHA | IARC | NTP |
|-------------------------|------|------|--|
| Xylene | - | 3 | - |
| ethylbenzene | - | 2B | - |
| cumene | - | 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.

Teratogenicity

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

Specific target organ toxicity (single exposure)

| Name | Category | Route of exposure | Target organs |
|---|--------------------------|------------------------------------|--|
| Hexamethylene diisocyanate, oligomers (Biuret type) | Category 3 | Not applicable. | Respiratory tract irritation |
| Solvent naphtha (petroleum), light aromatic | Category 3 Category 3 | Not applicable. Not applicable. | Narcotic effects Respiratory tract irritation |
| 1,2,4-trimethylbenzene | Category 3 | Not applicable. | Respiratory tract irritation |
| xylene | Category 3 | Not applicable. | Respiratory tract irritation |
| mesitylene | Category 3 | Not applicable. | Respiratory tract irritation |
| propylbenzene | Category 3 | Not applicable. | Respiratory tract irritation |
| cumene | Category 3 | Not applicable. | Respiratory tract |

Section 11. Toxicological information

| | | | |
|-----------------------------|------------|-----------------|---|
| hexamethylene-di-isocyanate | Category 3 | Not applicable. | irritation Respiratory tract irritation |
|-----------------------------|------------|-----------------|---|

Specific target organ toxicity (repeated exposure)

| Name | Category | Route of exposure | Target organs |
|--------------|------------|-------------------|----------------|
| ethylbenzene | Category 2 | Not determined | hearing organs |
| cumene | Category 2 | Not determined | Not determined |

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, upper respiratory tract, skin, ears, eye, lens or cornea.

Aspiration hazard

| Name | Result |
|--|--|
| Solvent naphtha (petroleum), light aromatic xylene ethylbenzene propylbenzene cumene | ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1 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 : May be fatal if swallowed and enters airways.

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

Skin contact : Adverse symptoms may include the following:
irritation
redness
dryness
cracking

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

Section 11. Toxicological information

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. 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

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

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 : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

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) |
|-------------------------|--------------|----------------|--------------------------|----------------------------|-------------------------------------|
| | | | | | |

Section 11. Toxicological information

| | | | | | |
|---|---------|--------|-----|-------|-------|
| AMERCOAT 450 GL HARDENER | 21014.1 | 8830.5 | N/A | 12.5 | 1.6 |
| Hexamethylene diisocyanate, oligomers (Biuret type) | N/A | N/A | N/A | 11 | 1.5 |
| Solvent naphtha (petroleum), light aromatic | 8400 | 3480 | N/A | N/A | N/A |
| 1,2,4-trimethylbenzene | 5000 | N/A | N/A | 18 | 1.5 |
| 2-methoxy-1-methylethyl acetate | 8532 | N/A | N/A | N/A | N/A |
| xylene | 4300 | 1100 | N/A | 11 | 1.5 |
| ethylbenzene | 3500 | 17800 | N/A | 17.8 | 1.5 |
| mesitylene | 5000 | N/A | N/A | 24 | N/A |
| propylbenzene | 6040 | N/A | N/A | N/A | N/A |
| 1,2,3-trimethylbenzene | 11400 | N/A | N/A | N/A | N/A |
| cumene | 1400 | 12300 | N/A | 39 | N/A |
| hexamethylene-di-isocyanate | 710 | 570 | N/A | 0.151 | 0.124 |

Section 12. Ecological information**Toxicity**

| Product/ingredient name | Result | Species | Exposure |
|---|--|---------------------------------|----------|
| Hexamethylene diisocyanate, oligomers (Biuret type) | Acute EC50 >1000 mg/l | Algae - scenedesmus subspicatus | 72 hours |
| | Acute EC50 >100 mg/l | Daphnia - daphnia magna | 48 hours |
| | Acute LC50 >100 mg/l | Fish - Danio rerio (zebra fish) | 96 hours |
| Solvent naphtha (petroleum), light aromatic | Acute LC50 8.2 mg/l | Fish | 96 hours |
| | | Fish | 96 hours |
| 2-methoxy-1-methylethyl acetate | Acute LC50 161 mg/l Fresh water | Fish | 96 hours |
| ethylbenzene | Acute LC50 150 to 200 mg/l Fresh water | Fish | 96 hours |

Persistence and degradability

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|-------------------|------------|------------------|
| Hexamethylene diisocyanate, oligomers (Biuret type) | - | - | Not readily |
| xylene | - | - | Readily |
| ethylbenzene | - | - | Readily |

Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|---|--------------------|-------------|-----------|
| Hexamethylene diisocyanate, oligomers (Biuret type) | - | 3.2 | low |
| 1,2,4-trimethylbenzene | 3.63 | 120.23 | low |
| 2-methoxy-1-methylethyl acetate | 0.56 | - | low |
| xylene | 3.16 | 7.4 to 18.5 | low |
| ethylbenzene | 3.15 | 79.43 | low |
| mesitylene | 3.42 | 186.21 | low |
| propylbenzene | 3.69 | - | low |
| 1,2,3-trimethylbenzene | 3.66 | 194.98 | low |
| cumene | 3.66 | 35.48 | low |
| hexamethylene-di-isocyanate | 1.08 | - | low |

Section 12. Ecological information

Mobility in soil

Soil/water partition coefficient (K_{oc}) : 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 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

Section 14. Transport information

| | TDG | IMDG | IATA |
|-----------------------------|---|---|--|
| UN number | UN1263 | UN1263 | UN1263 |
| UN proper shipping name | PAINT RELATED MATERIAL | PAINT RELATED MATERIAL | PAINT RELATED MATERIAL |
| Transport hazard class (es) | 3 | 3 | 3 |
| Packing group | III | III | III |
| Environmental hazards | Yes. | Yes. | Yes. The environmentally hazardous substance mark is not required. |
| Marine pollutant substances | (Solvent naphtha (petroleum), light aromatic, 1,2,4-trimethylbenzene) | (Solvent naphtha (petroleum), light aromatic, 1,2,4-trimethylbenzene) | Not applicable. |

Additional information

- TDG** : The marine pollutant mark is not required when transported by road or rail.
- 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.

Section 14. Transport information

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.

Proof of classification statement : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.18-2.19 (Class 3), 2.7 (Marine pollutant mark).

Section 15. Regulatory information

National Inventory List

Canada inventory (DSL) : All components are listed or exempted.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 3 * **Flammability** : 2 **Physical hazards** : 0

(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on MSDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

National Fire Protection Association (U.S.A.)

Health : 3 **Flammability** : 2 **Instability** : 0

Date of issue/Date of revision 16 January 2020

Organization that prepared the MSDS : 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

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