1. Identification of the substance/mixture and of the company/undertaking

Product name  VHS Hardener
Product code  DP3170  Formula date: 2019-08-30
Intended use  Hardener for professional use
Supplier  Axalta Coating Systems Canada Company
408 Fairall Street
CA Ajax, ON L1S 1R6
Manufacturer  Axalta Coating Systems, LLC
Applied Corporate Center
50 Applied Bank Boulevard, Suite 300
US Glen Mills, PA 19342
Telephone  Product information (800) 668-6945
Medical emergency (855) 274-5698
Transportation emergency (800) 424-9300 (CHEMTREC)
Chemical Family  TOPCOAT - SOLVENTBORNE

2. Hazards identification

This preparation is hazardous per the following GHS criteria

GHS-Classification

<table>
<thead>
<tr>
<th>Classification</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable liquids</td>
<td>2</td>
</tr>
<tr>
<td>Respiratory sensitisation</td>
<td>1</td>
</tr>
<tr>
<td>Skin sensitisation</td>
<td>1</td>
</tr>
<tr>
<td>Target Organ Systemic Toxicant - Single exposure</td>
<td>3</td>
</tr>
</tbody>
</table>

Endpoints which are “not classified", cannot be classified or are not applicable are not shown.

GHS-Labelling

Hazard symbols

Signal word: Danger

Hazard statements

Flammable liquid and vapour.
May cause an allergic skin reaction.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation.
May cause drowsiness or dizziness.

Precautionary statements

Use explosion-proof electrical/ventilating/lighting equipment.
Use only non-sparking tools.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.
Wear respiratory protection.
IF ON SKIN: Wash with plenty of soap and water.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Specific treatment (see supplemental first aid instructions on this label).
If skin irritation or rash occurs: Get medical advice/attention.
If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
Wash contaminated clothing before reuse.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of contents/container in accordance with local regulations.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Ground and bond container and receiving equipment.
Take action to prevent static discharges.
Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
IF exposed or concerned: Call a POISON CENTER/doctor.

Other hazards which do not result in classification
Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity:
0 %

3. Composition/information on ingredients
Mixture of synthetic resins and solvents

Components

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>Chemical name</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>28182-81-2</td>
<td>Aliphatic polyisocyanate resin</td>
<td>65 - 85%</td>
</tr>
<tr>
<td>123-86-4</td>
<td>Butyl acetate</td>
<td>10 - 30%</td>
</tr>
<tr>
<td>822-06-0</td>
<td>1,6-hexamethylene diisocyanate</td>
<td>0.1 - 1.0%</td>
</tr>
</tbody>
</table>

Actual concentration ranges withheld as a trade secret.
Non-regulated ingredients 0.0 - 0.1%

4. First aid measures

Eye contact
Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

Skin contact
Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

Inhalation
Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

Ingestion
If swallowed, seek medical advice immediately and show this safety data sheet (SDS) or product label. Do NOT induce vomiting. Keep at rest.
Most Important Symptoms/effects, acute and delayed

Inhalation
May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage. Exposure to isocyanates may cause respiratory sensitization. This effect may be permanent. Symptoms include an asthma-like reaction with shortness of breath, wheezing, cough or permanent lung sensitization. This effect may be delayed for several hours after exposure. Repeated overexposure to isocyanates may cause a decrease in lung function, which may be permanent. Individuals with lung or breathing problems or prior reactions to isocyanates must not be exposed to vapors or spray mist of this product.

Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis. Skin contact may cause skin sensitization. If this product is mixed with an isocyanate, skin contact may cause sensitization.

Indication of Immediate medical attention and special treatment needed if necessary
No data available on the product. See section 3 and 11 for hazardous ingredients found in the product.

5. Firefighting measures

Suitable extinguishing media
Universal aqueous film-forming foam, Carbon dioxide (CO₂), Dry chemical

Extinguishing media which shall not be used for safety reasons
High volume water jet

Hazardous combustion products
CO, CO₂, smoke, and oxides of any heavy metals that are reported in “Composition, Information on Ingredients” section.

Fire and Explosion Hazards
Flammable liquid. Vapor/air mixture will burn when an ignition source is present.

Special Protective Equipment and Fire Fighting Procedures
Full protective flameproof clothing should be worn as appropriate. Wear self-contained breathing apparatus for firefighting if necessary. In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter public sewer systems or public waterways.

6. Accidental release measures

Procedures for cleaning up spills or leaks
Ventilate area. Remove sources of ignition. Do not breathe vapors. Do not get in eyes or on skin. Wear a positive-pressure, supplied-air respirator (NIOSH approved TC-19C), eye protection, gloves and protective clothing. Pour liquid decontamination solution over the spill and allow to sit at least 10 minutes. Typical decontamination solutions for isocyanate containing materials are: 20% Surfactant (Tergitol TM 10) and 80% Water OR 0-10% Ammonia, 2-5% Detergent and Water (balance) Confine and remove with inert absorbent. Pressure can be generated. Do not seal waste containers for 48 hours to allow CO₂ to vent. After 48 hours, material may be sealed and disposed of properly.

Environmental precautions
Do not let product enter drains. Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.

7. Handling and storage
Precautions for safe handling
Observe label precautions. Keep away from heat, sparks, flame, static discharge and other sources of ignition. VAPORS MAY CAUSE FLASH FIRE. Close container after each use. Ground containers when pouring. Do not transfer contents to bottles or unlabeled containers. Wash thoroughly after handling and before eating or smoking. Do not store above 49 °C (120 °F). If material is a coating: do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves. Combustible dust clouds may be created where operations produce fine material (dust). Avoid formation of significant deposits of material as they may become airborne and form combustible dust clouds. Build up of fine material should be cleaned using gentle sweeping or vacuuming in accordance with best practices. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors. Vapors may form explosive mixtures with air and will burn when an ignition source is present. Always keep in containers of same material as the original one. Never use pressure to empty container: container is not a pressure vessel. The accumulation of contaminated rags may result in spontaneous combustion. Good housekeeping standards and regular safe removal of waste materials will minimize the risks of spontaneous combustion and other fire hazards.

Storage
Requirements for storage areas and containers
Observe label precautions. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage
Store separately from oxidizing agents, strongly alkaline and strongly acidic materials, amines, alcohols and water. Precautions should be taken to avoid exposure to atmospheric humidity or water. Evolution of CO2 in closed containers causes overpressure and produces a risk of bursting.

Additional information on storage conditions
Precautions should be taken to avoid exposure to atmospheric humidity or water. Humid air and/or water will produce carbon dioxide which will pressurize the container. Open drum carefully as content may be under pressure.

8. Exposure controls/personal protection

Engineering controls and work practices
Provide adequate ventilation.

National occupational exposure limits

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>Chemical name</th>
<th>Source</th>
<th>Time</th>
<th>Type</th>
<th>Value</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>123-88-4</td>
<td>Butyl acetate</td>
<td>ACGIH</td>
<td>15 min</td>
<td>STEL</td>
<td>200 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACGIH</td>
<td>8 hr</td>
<td>TWA</td>
<td>150 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>OSHA</td>
<td>8 hr</td>
<td>TWA</td>
<td>150 ppm</td>
<td></td>
</tr>
<tr>
<td>822-06-0</td>
<td>1,6-hexamethylene diisocyanate</td>
<td>ACGIH</td>
<td>8 hr</td>
<td>TWA</td>
<td>5 ppm</td>
<td></td>
</tr>
</tbody>
</table>

Glossary

CEIL Ceiling exposure limit
STEL Short term exposure limit
TWA Time weighted average
TWAE Time-Weighted Average

Protective equipment
Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Respiratory protection
Do not breathe vapors or mists. Wear a positive-pressure, supplied air respirator (NIOSH approved TC-19C), while mixing activator with paint, during application and until all vapors and spray mists are exhausted. Follow respirator manufacturer s directions for respirator use. Do not permit anyone without protection in the painting area. Refer to the hardener/activator label instructions for further information. Individuals with history of lung or breathing problems or prior reaction to isocyanates should not use or be exposed to this product if mixed with isocyanate activators/hardeners.
Eye protection
Desirable in all industrial situations. Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

Skin and body protection
Neoprene gloves and coveralls are recommended.

Hygiene measures
Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Environmental exposure controls
Do not let product enter drains.

9. Physical and chemical properties

Appearance
Form: liquid
Colour: clear

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash point</td>
<td>24 °C</td>
</tr>
<tr>
<td>Lower Explosive Limit</td>
<td>1.2 %</td>
</tr>
<tr>
<td>Upper Explosive Limit</td>
<td>7.5 %</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Slower than Ether</td>
</tr>
<tr>
<td>Vapor pressure of principal solvent</td>
<td>2.5 hPa</td>
</tr>
<tr>
<td>Solubility of Solvent In Water</td>
<td>partly miscible</td>
</tr>
<tr>
<td>Vapor density of principal solvent (Air = 1)</td>
<td>4 kg/m³</td>
</tr>
<tr>
<td>Approx. Boiling Range</td>
<td>125 °C</td>
</tr>
<tr>
<td>Approx. Freezing Range</td>
<td>-74 – -28 °C</td>
</tr>
<tr>
<td>Gallon Weight (lbs/gal)</td>
<td>9.26</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.11</td>
</tr>
<tr>
<td>Percent Volatile By Volume</td>
<td>20.80%</td>
</tr>
<tr>
<td>Percent Volatile By Weight</td>
<td>16.50%</td>
</tr>
<tr>
<td>Percent Solids By Volume</td>
<td>79.20%</td>
</tr>
<tr>
<td>Percent Solids By Weight</td>
<td>83.50%</td>
</tr>
<tr>
<td>pH (waterborne systems only)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Ignition temperature</td>
<td>415 °C</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Viscosity (23 °C)</td>
<td>&lt;20 s ISO 2431-1993 6 mm</td>
</tr>
</tbody>
</table>

10. Stability and reactivity

Stability
Stable

Conditions to avoid
Stable under recommended storage and handling conditions (see section 7).

Materials to avoid
Keep away from oxidizing agents and strongly acid or alkaline materials. Amines and alcohols cause exothermic reactions. Mixture reacts slowly with water resulting in evolution of CO2. Evolution of CO2 in closed containers causes overpressure and produces a risk of bursting.
Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen as well as hydrogen cyanide, amines, alcohols and water.

Hazardous Polymerization
Will not occur.

Sensitivity to Static Discharge
Solvent vapors in air may explode if static grounding and bonding is not used during transfer of this product.

Sensitivity to Mechanical Impact
None known.

11. Toxicological information

Information on likely routes of exposure

Inhalation
May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage. Exposure to isocyanates may cause respiratory sensitization. This effect may be permanent. Symptoms include an asthma-like reaction with shortness of breath, wheezing, cough or permanent lung sensitization. This effect may be delayed for several hours after exposure. Repeated overexposure to isocyanates may cause a decrease in lung function, which may be permanent. Individuals with lung or breathing problems or prior reactions to isocyanates must not be exposed to vapors or spray mist of this product.

Ingestion
May result in gastrointestinal distress.

Skin or eye contact
May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

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

Acute oral toxicity
not hazardous

Acute dermal toxicity
not hazardous

Acute inhalation toxicity
not hazardous

% of unknown composition: 0 %

Skin corrosion/irritation
Not classified according to GHS criteria

Serious eye damage/eye irritation
Not classified according to GHS criteria

Respiratory sensitisation
1,6-hexamethylene diisocyanate Category 1
Skin sensitisation

Aliphatic polyisocyanate resin Category 1
1,6-hexamethylene diisocyanate Category 1

Germ cell mutagenicity
not hazardous

Carcinogenicity
Not classified according to GHS criteria

Toxicity for reproduction
Not classified according to GHS criteria

Target Organ Systemic Toxicant - Single exposure

- Inhalation
  Respiratory system Aliphatic polyisocyanate resin

Target Organ Systemic Toxicant - Repeated exposure
not hazardous

Aspiration toxicity
Not classified according to GHS criteria

Numerical measures of toxicity (acute toxicity estimation (ATE), etc.)
No information available.

Symptoms related to the physical, chemical and toxicological characteristics
Based on the properties of the isocyanate components and considering toxicological data on similar products, the following applies:
This formulation may cause acute irritation and/or sensitization of the respiratory system leading to an asthmatic condition, wheeziness and a 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. Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effect such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Through skin resorption, solvents can cause some of the effects described here. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage. Components of the product may be absorbed into the body through the skin.

12. Ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses.

13. Disposal considerations

Provincial Waste Classification
Check appropriate provincial and local waste disposal regulations for proper classifications.

Waste Disposal Method
Do not allow material to contaminate ground water systems. Incinerate or otherwise dispose of waste material in accordance with Federal, State, Provincial, and local requirements. Do not incinerate in closed containers.

14. Transport information
International transport regulations

**IMDG (Sea transport)**

UN number: 1263  
Proper shipping name: PAINT RELATED MATERIAL  
Hazard Class: 3  
Subsidiary Hazard Class: Not applicable.  
Packing group: III  
Marine Pollutant: no

**ICAO/IATA (Air transport)**

UN number: 1263  
Proper shipping name: PAINT RELATED MATERIAL  
Hazard Class: 3  
Subsidiary Hazard Class: Not applicable.  
Packing group: III

**TDG**

UN number: 1263  
Proper shipping name: PAINT RELATED MATERIAL  
Hazard Class: 3  
Subsidiary Hazard Class: Not applicable.  
Packing group: III

Matters needing attention for transportation

Confirm that there is no breakage, corrosion, or leakage from the container before shipping. Be sure to prevent damage to cargo by loading so as to avoid falling, dropping, or collapse. Ship in appropriate containers with denotation of the content in accordance with the relevant statutes and rules.

15. Regulatory information

**TSCA Status**

In compliance with TSCA Inventory requirements for commercial purposes.

**DSL Status**

All components of the mixture are listed on the DSL.

**Photochemical Reactivity**

Non-photochemically reactive

Regulatory information

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Ingredient</th>
<th>EPCRA</th>
<th>CERCLA</th>
<th>CAA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>302</td>
<td>TPQ</td>
<td>311/312</td>
</tr>
<tr>
<td>28182-81-2</td>
<td>Aliphatic polyisocyanate resin</td>
<td></td>
<td>313</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>RO</td>
<td></td>
</tr>
<tr>
<td>123-86-4</td>
<td>Butyl acetate</td>
<td></td>
<td>A,C,R</td>
<td></td>
</tr>
<tr>
<td>822-06-0</td>
<td>1,6-hexamethylene diisocyanate</td>
<td></td>
<td>NR</td>
<td></td>
</tr>
</tbody>
</table>

**Key:**

- EPCRA = Emergency Planning and Community Right-to-know Act (aka Title III, SARA)
- 302 = Extremely hazardous substances
311/312 Categories
F = Fire Hazard
A = Acute Hazard
R = Reactivity Hazard
C = Chronic Hazard
P = Pressure Related Hazard

313 Information
Section 313 Supplier Notification - The chemicals listed above with a ‘Y’ in the 313 column are subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know act of 1986 and of 40 CFR 372.

CERCLA

HAP
Listed as a Clean Air Act Hazardous Air Pollutant.

TPQ
Threshold Planning Quantity.

RQ
Reportable Quantity

NA
not available

NR
not regulated

16. Other information

HMIS rating  H: 2  F: 3  R: 1

Glossary of Terms:

ACGIH  American Conference of Governmental Industrial Hygienists.
IARC  International Agency for Research on Cancer.
NTP  National Toxicology Program.
OEL  Occupational Exposure Limit
OSHA  Occupational Safety and Health Administration.
STE L  Short term exposure limit
TWA  Time-weighted average.
PNOR  Particles not otherwise regulated.
PNOC  Particles not otherwise classified.

NOTE: The list (above) of glossary terms may be modified.

Notice from Axalta Coating Systems:
The document reflects information provided to Axalta Coating Systems by its suppliers. Information is accurate to the best of our knowledge and is subject to change as new data is received by Axalta Coating Systems. Persons receiving this information should make their own determination as to its suitability for their purposes prior to use.
The information on this Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

SDS prepared by: Axalta Coating Systems Regulatory Affairs

Version Changes

9.0 1

Revision Date: 2019-10-19

(800) 668-6945
axalta.ca