

Safety Data Sheet

LH420 OVERALL CLEAR HARDENER

Revision date : 2018/11/01
Version: 8.0

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(30132723/SDS_GEN_CA/EN)

1. Identification

Product identifier used on the label

LH420 OVERALL CLEAR HARDENER

Recommended use of the chemical and restriction on use

Recommended use*: for industrial use only

* The "Recommended use" identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:

BASF Canada Inc.
100 Milverton Drive
Mississauga, ON L5R 4H1, CANADA

Telephone: +1 289 360-1300

Emergency telephone number

CANUTEC (reverse charges): (613) 996-6666
BASF HOTLINE: (800) 454-COPE (2673)

Other means of identification

Chemical family: Coating

2. Hazards Identification

According to Hazardous Products Regulations (HPR) (SOR/2015-17)

Classification of the product

Resp. Sens.	1	Respiratory sensitization
Skin Sens.	1	Skin sensitization
Flam. Liq.	3	Flammable liquids
Aquatic Acute	3	Hazardous to the aquatic environment - acute
Aquatic Chronic	3	Hazardous to the aquatic environment - chronic
STOT SE	3 (irritating to respiratory system)	Specific target organ toxicity — single exposure

Label elements

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Pictogram:



Signal Word:
Danger

Hazard Statement:

H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
H412	Harmful to aquatic life with long lasting effects.
H226	Flammable liquid and vapour.
H335	May cause respiratory irritation.

Precautionary Statements (Prevention):

P280	Wear protective gloves/protective clothing/eye protection/face protection.
P271	Use only outdoors or in a well-ventilated area.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P242	Use only non-sparking tools.
P241	Use explosion-proof electrical/ventilating/lighting/equipment.
P243	Take action to prevent static discharges.
P233	Keep container tightly closed.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P285	In case of inadequate ventilation wear respiratory protection.
P240	Ground and bond container and receiving equipment.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.

Precautionary Statements (Response):

P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P370 + P378	In case of fire: Use water spray for extinction.
P363	Wash contaminated clothing before reuse.
P321	Specific treatment (see on this label).
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P304 + P341	IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing.
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

Precautionary Statements (Storage):

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.

Precautionary Statements (Disposal):

P501	Dispose of contents/container to hazardous or special waste collection point.
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Hazards not otherwise classified

No applicable information available.

3. Composition / Information on Ingredients

According to Hazardous Products Regulations (HPR) (SOR/2015-17)

<u>CAS Number</u>	<u>Weight %</u>	<u>Chemical name</u>
822-06-0	>= 0.1 - < 0.2%	1,6-hexamethylene diisocyanate
28182-81-2	>= 25.0 - < 50.0%	Hexane, 1,6-diisocyanato-, homopolymer
112-07-2	>= 3.0 - < 5.0%	2-butoxyethyl acetate
763-69-9	>= 7.0 - < 10.0%	Propanoic acid, 3-ethoxy-, ethyl ester
95-63-6	>= 1.0 - < 3.0%	1,2,4-trimethylbenzene
110-43-0	>= 7.0 - < 10.0%	2-heptanone
98-82-8	>= 0.2 - < 0.3%	cumene
28182-81-2	>= 25.0 - < 50.0%	(OLIGOMER) Hexamethylene diisocyanate isocyanurate-type oligomers

4. First-Aid Measures

Description of first aid measures

General advice:

Remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air. If breathing difficulties develop, aid in breathing and seek immediate medical attention.

If on skin:

Immediately wash thoroughly with soap and water, seek medical attention.

If in eyes:

Flush with copious amounts of water for at least 15 minutes. Hold eyelids open to facilitate rinsing. If irritation develops, seek medical attention. Seek medical attention.

If swallowed:

Immediate medical attention required. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Do not induce vomiting. Rinse mouth and then drink 200-300 ml of water.

Most important symptoms and effects, both acute and delayed

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

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5. Fire-Fighting Measures

Extinguishing media

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

Unsuitable extinguishing media for safety reasons:
water jet

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
Vapors and/or decomposition products are irritant and/or toxic. If product is heated above decomposition temperature acrid smoke and fumes will be released.

Advice for fire-fighters

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

Further information:

Avoid water contamination in closed containers of confined areas, because carbon dioxide gas is generated. Notify proper authorities. Do not flood burning material with water due to potential spreading of fire. Flash fire may occur. Run-off water from fire may cause pollution. Contain contaminated water/firefighting water. Remove product from areas of fire, or otherwise cool sealed containers with water in order to avoid pressure build up due to heat. Vapours are heavier than air and may accumulate in low areas and travel a considerable distance up to the source of ignition.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid contact with skin and eyes. Extinguish sources of ignition nearby and downwind. Avoid prolonged inhalation. Wear suitable personal protective clothing and equipment. Ensure adequate ventilation.

Environmental precautions

Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up

Dike spillage. Wash down spill area with decontamination solution. Spill area can be decontaminated with the following recommended decontamination solution: Allow solution to stand for at least 10 minutes. Remove containers to a safe place, cover loosely, and allow to stand for 24 to 48 hours before sealing and disposing. Shovel into open container. Add additional decontamination solution to waste container. Mixture of 80 % water and 20 % non-ionic surfactant, or 90 - 95 % water, 3 - 8 % concentrated ammonia and 2 % detergent.

7. Handling and Storage

Precautions for safe handling

Handle and open container with care. Avoid water contamination in closed containers of confined areas, because carbon dioxide gas is generated. WARNING: Empty containers may still contain hazardous residue. If bulging of drum occurs, transfer to well ventilated area, puncture to relieve pressure, open vent and let stand for 48 hours before resealing. Do not reseal container if

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contamination of the product is suspected. Use static lines when mixing and transferring material. Do not puncture, drop, or slide containers. Store in a well-ventilated place. Keep cool. Ensure adequate ventilation. Avoid contact with the skin, eyes and clothing.

Protection against fire and explosion:

Risk of explosion if heated under confinement. Use antistatic tools. Exhaust fans should be explosion proof. Avoid all sources of ignition: heat, sparks, open flame. Provide adequate ventilation to remove solvent vapors from lower levels or work areas and to prevent solvent contact with ignition sources. Sealed containers should be protected against heat as this results in pressure build-up.

Conditions for safe storage, including any incompatibilities

Segregate from strong bases. Segregate from oxidizing agents. Segregate from incompatible substances. Segregate from metals. Segregate from strong acids. Keep away from water.

Suitable materials for containers: Carbon steel (Iron), tinned carbon steel (Tinplate)

Further information on storage conditions: Keep container tightly closed. Protect against moisture. Carbon dioxide gas can cause containers to expand and possibly rupture explosively. Store protected against freezing. Protect from direct sunlight. If moisture enters isocyanate containers, CO₂ forms and pressure builds up.

Storage stability:

Storage temperature: 25 - 35 °C

Consult local fire marshal for storage requirements.

Slow non-hazardous polymerization possible when at or exceeding maximum temperatures.

Protect from temperatures above: 50 °C

8. Exposure Controls/Personal Protection

Components with occupational exposure limits

1,2,4-trimethylbenzene	OSHA PEL	TWA value 25 ppm 125 mg/m ³ ;
	ACGIH TLV	TWA value 25 ppm ;
2-heptanone	OSHA PEL	PEL 100 ppm 465 mg/m ³ ; TWA value 100 ppm 465 mg/m ³ ;
	ACGIH TLV	TWA value 50 ppm ;
2-butoxyethyl acetate	ACGIH TLV	TWA value 20 ppm ;
1,6-hexamethylene diisocyanate	ACGIH TLV	TWA value 0.005 ppm ;
cumene	OSHA PEL	Skin Designation ;
		The substance can be absorbed through the skin.
		PEL 50 ppm 245 mg/m ³ ; SKIN_FINAL ;
		The substance can be absorbed through the skin.
		TWA value 50 ppm 245 mg/m ³ ;
	ACGIH TLV	TWA value 50 ppm ;

Personal protective equipment

Respiratory protection:

Do not exceed the maximum use concentration for the respirator facepiece/cartridge combination. Respiratory protection equipment must be approved for use with isocyanates.

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Hand protection:

Chemical resistant protective gloves

Eye protection:

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

Body protection:

Body protection must be chosen based on level of activity and exposure.

General safety and hygiene measures:

Work place should be equipped with a shower and an eye wash. Remove contaminated clothing. Remove contaminated clothing immediately and clean before re-use or dispose it if necessary. Contact lenses should not be worn. Hands and/or face should be washed before breaks and at the end of the shift.

9. Physical and Chemical Properties

Form:	liquid	
Odour:	ester-like	
Odour threshold:	No applicable information available.	
Colour:	clear	
pH value:	No applicable information available.	
Melting point:	No applicable information available.	
Boiling range:	152.00 - 250.00 °C	
Sublimation point:	No applicable information available.	
Flash point:	51.60 °C	(ASTM D3278)
Flammability:	No applicable information available.	
Lower explosion limit:	0.50 %(V)	
Upper explosion limit:	8.54 %(V)	
Autoignition:	No applicable information available.	
Vapour pressure:	4.40 mmHg (20 °C)	
Density:	1.0651 g/cm3 (20 °C)	(calculated)
Relative density:	1.0651 (20 °C)	
Vapour density:	No applicable information available.	
Partitioning coefficient n-octanol/water (log Pow):	No applicable information available.	
Thermal decomposition:	Risk of polymerization above the indicated temperature in the presence of moisture and isocyanate reactive substances. No applicable information available.	
Viscosity, dynamic:	No applicable information available.	
Viscosity, kinematic:	No applicable information available.	
Solubility in water:	No applicable information available.	
Solubility (quantitative):	No applicable information available.	
Solubility (qualitative):	No applicable information available.	
Evaporation rate:	No applicable information available.	

10. Stability and Reactivity

Reactivity

No applicable information available.

Chemical stability

The product is chemically stable.

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Possibility of hazardous reactions

On contact with water, gaseous decomposition products are formed, which cause build-up of pressure in tightly closed containers. Reacts with water.

Conditions to avoid

Avoid all sources of ignition: heat, sparks, open flame. Avoid direct contact with water. Avoid electrostatic discharge.

Incompatible materials

strong oxidizing agents, strong bases, strong acids, thiols, transition metal salts, water, amines, alcohols

Hazardous decomposition products

Decomposition products:

nitrogen oxides, carbon dioxide, carbon monoxide, hydrogen cyanide

Thermal decomposition:

Risk of polymerization above the indicated temperature in the presence of moisture and isocyanate reactive substances. No applicable information available.

11. Toxicological information

Primary routes of exposure

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

Primary routes of entry

Solvents are absorbed through the skin.

Acute Toxicity/Effects

Acute toxicity

Assessment of acute toxicity: Of moderate toxicity after short-term skin contact. Of moderate toxicity after single ingestion. Of very high toxicity after short-term inhalation.

Information on: 1,2,4-trimethylbenzene

Assessment of acute toxicity: Of low toxicity after single ingestion. Of moderate toxicity after short-term inhalation. EU-classification Virtually nontoxic after a single skin contact.

Information on: 2-heptanone

Assessment of acute toxicity: Of moderate toxicity after short-term inhalation. Of moderate toxicity after single ingestion. Virtually nontoxic after a single skin contact.

Information on: 2-butoxyethyl acetate

Assessment of acute toxicity: Of moderate toxicity after single ingestion. Of moderate toxicity after short-term skin contact. The inhalation of a highly enriched/saturated vapor-air-mixture represents an unlikely acute hazard. The European Union (EU) has classified this substance as 'harmful' after inhalation.

Information on: 1,6-hexamethylene diisocyanate

Assessment of acute toxicity: Of high toxicity after short-term inhalation. In animal studies the substance is virtually nontoxic after a single skin contact. Of moderate toxicity after single ingestion.

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Information on: cumene

Assessment of acute toxicity: Of low toxicity after single ingestion. Virtually nontoxic by inhalation. Virtually nontoxic after a single skin contact.

Information on: (OLIGOMER) Hexamethylene diisocyanate isocyanurate-type oligomers

Assessment of acute toxicity: Virtually nontoxic after a single ingestion. Virtually nontoxic after a single skin contact. Of moderate toxicity after short-term inhalation.

Oral

No applicable information available.

Inhalation

No applicable information available.

Dermal

No applicable information available.

Assessment other acute effects

Assessment of STOT single:

Causes temporary irritation of the respiratory tract.

Irritation / corrosion

Assessment of irritating effects: Eye contact causes irritation. Skin contact causes irritation.

Information on: 1,2,4-trimethylbenzene

Assessment of irritating effects: Irritating to eyes and skin. EU-classification

Information on: 2-butoxyethyl acetate

Assessment of irritating effects: Not irritating to the skin. Not irritating to the eyes.

Information on: cumene

Assessment of irritating effects: Not irritating to the skin. Not irritating to the eyes. Causes temporary irritation of the respiratory tract.

Information on: (OLIGOMER) Hexamethylene diisocyanate isocyanurate-type oligomers

Assessment of irritating effects: May cause slight irritation to the skin. May cause slight irritation to the eyes.

Sensitization

Information on: 1,6-hexamethylene diisocyanate

Assessment of sensitization:

The substance may cause sensitization of the respiratory tract. Sensitization after skin contact possible.

Information on: (OLIGOMER) Hexamethylene diisocyanate isocyanurate-type oligomers

Assessment of sensitization:

Caused skin sensitization in animal studies.

Aspiration Hazard

No applicable information available.

Chronic Toxicity/Effects

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Repeated dose toxicity

Assessment of repeated dose toxicity: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: 1,2,4-trimethylbenzene

Assessment of repeated dose toxicity: Repeated oral uptake of the substance did not cause substance-related effects. Investigations using experimental animals show that the material can cause lung tissue changes following inhalation.

Information on: 2-heptanone

Assessment of repeated dose toxicity: No adverse effects were observed after repeated exposure in animal studies.

Information on: 2-butoxyethyl acetate

Assessment of repeated dose toxicity: Damages blood cells. Due to the species specific mode of action, the effects are not expected to occur in humans.

Information on: (OLIGOMER) Hexamethylene diisocyanate isocyanurate-type oligomers

Assessment of repeated dose toxicity: After repeated exposure the prominent effect is local irritation.

Carcinogenicity

Assessment of carcinogenicity: Contains a suspect carcinogen.

Information on: cumene

Assessment of carcinogenicity: Indication of possible carcinogenic effect in animal tests. The effect is caused by an animal specific mechanism that has no human counter part. A clear indication of an increased risk of cancer in humans has so far not been shown. IARC (International Agency for Research on Cancer) has classified this substance as group 2B (The agent is possibly carcinogenic to humans).

Teratogenicity

Information on: 1,2,4-trimethylbenzene

Assessment of teratogenicity: No indications of a developmental toxic / teratogenic effect were seen in animal studies. The potential to cause toxicity to development cannot be excluded at maternally toxic doses.

Information on: 2-butoxyethyl acetate

Assessment of teratogenicity: In animal studies the substance did not cause malformations. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Symptoms of Exposure

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

Medical conditions aggravated by overexposure

Medical supervision of all employees who handle or come into contact with isocyanates is recommended. Persons with asthmatic conditions, chronic bronchitis, other chronic respiratory diseases, recurrent eczema or pulmonary sensitization should be excluded from working with isocyanates. Once a person is diagnosed as having pulmonary sensitization (allergic asthma) to isocyanates, further exposure is not recommended. The isocyanate component is a respiratory

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sensitizer. It may cause allergic reaction leading to asthma-like spasms of the bronchial tubes and difficulty in breathing.

12. Ecological Information

No applicable information available.

13. Disposal considerations

Waste disposal of substance:

Do not incinerate closed containers. The use and processing of this product, or addition of other constituents, may cause it to be considered a hazardous waste. Do not discharge into drains/surface waters/groundwater.

Must be disposed of or incinerated in accordance with local regulations.

Container disposal:

Do not reuse containers without commercial reconditioning.

14. Transport Information

Land transport

TDG

Hazard class:	3
Packing group:	III
ID number:	UN 1263
Hazard label:	3
Proper shipping name:	PAINT RELATED MATERIAL

Sea transport

IMDG

Hazard class:	3
Packing group:	III
ID number:	UN 1263
Hazard label:	3
Marine pollutant:	NO
Proper shipping name:	PAINT RELATED MATERIAL

Air transport

IATA/ICAO

Hazard class:	3
Packing group:	III
ID number:	UN 1263
Hazard label:	3
Proper shipping name:	PAINT RELATED MATERIAL

15. Regulatory Information

Federal Regulations

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Registration status:

Chemical DSL, CA released / listed

NFPA Hazard codes:

Health: 2 Fire: 3 Reactivity: 0 Special:

16. Other Information

SDS Prepared by:

BASF NA Product Regulations
SDS Prepared on: 2018/11/01

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

END OF DATA SHEET