



Material Safety Data Sheet

DOW CHEMICAL CANADA ULC

Product name: BETASEAL™ U-400BP Urethane Adhesive

Issue Date: 05/24/2016

Print Date: 05/25/2016

DOW CHEMICAL CANADA ULC encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: BETASEAL™ U-400BP Urethane Adhesive

Recommended use of the chemical and restrictions on use

Identified uses: A urethane adhesive -- For use in automotive applications.

COMPANY IDENTIFICATION

DOW CHEMICAL CANADA ULC
#2400, 215 - 2ND STREET S.W.
CALGARY AB T2P 1M4
CANADA

For MSDS Updates and Product Information: 800-258-2436

Prepared by: Prepared for use in Canada by EH&S, Hazard Communications.

Revision Date: 05/24/2016

Print Date: 05/25/2016

Customer Information Number:

800-258-2436

SDSQuestion@dow.com

EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: 1-888-226-8832

Local Emergency Contact: 613-996-6666

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance

Physical state Paste

Color Black

Odor Odorless

Hazard Summary	CAUTION!! May cause eye irritation. Isolate area.
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Potential Health Effects**Ingestion:** Low toxicity if swallowed.

Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.

May cause nausea and vomiting.

May cause abdominal discomfort or diarrhea.

Based on physical properties, not likely to be an aspiration hazard.

Skin: Prolonged contact may cause slight skin irritation with local redness.

Material may stick to skin causing irritation upon removal.

May stain skin.

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

Eyes: May cause eye irritation.**Inhalation:** At room temperature, exposure to vapor is minimal due to low volatility. Vapor from heated material may cause respiratory irritation and other effects.

May cause nausea and vomiting.

This material contains mineral and/or inorganic fillers. There is essentially no potential for inhalation exposure to these fillers incidental to industrial handling due to the physical state.

Chronic Exposure: Contains component(s) which have been reported to cause effects on the following organs in animals:

Liver.

Kidney.

Contains a phthalate ester which has caused cancer in rats and mice given high dietary doses. The material is considered to be a weak carcinogen in rodents but is not believed to pose a carcinogenic risk to humans at typical use conditions.

Contains component(s) which did not cause birth defects in animals; other fetal effects occurred only at doses toxic to the mother.

For the phthalate ester(s):

In laboratory animals, excessive doses toxic to the parent animals caused decreased weight and survival of offspring.

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture.

Component	CASRN	Weight percent	
MDI based urethane polymer P83-1015	Not available	> 35.0 - < 45.0 %	Hazardous components
Carbon black	1333-86-4	> 25.0 - < 35.0 %	
Diisononyl phthalate	28553-12-0	> 25.0 - < 35.0 %	
Phthalic acid, di-C8-10-branched alkyl esters, C9-rich	68515-48-0	> 25.0 - < 35.0 %	
4,4' -Methylenediphenyl diisocyanate	101-68-8	< 1.0 %	Hazardous components

4. FIRST AID MEASURES

Description of first aid measures

General advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air; if effects occur, consult a physician.

Skin contact: Wash off with plenty of water.

Eye contact: Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist. Suitable emergency eye wash facility should be available in work area.

Ingestion: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed

Notes to physician: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIREFIGHTING MEASURES

Suitable extinguishing media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective. Water fog, applied gently may be used as a blanket for fire extinguishment.

Unsuitable extinguishing media: Do not use direct water stream. May spread fire.

Special hazards arising from the substance or mixture

Hazardous combustion products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Carbon monoxide. Carbon dioxide. Combustion products may include trace amounts of: Hydrogen cyanide.

Unusual Fire and Explosion Hazards: Product reacts with water. Reaction may produce heat and/or gases. Any closed container may rupture when exposed to extreme heat in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Dense smoke is produced when product burns.

Advice for firefighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose

holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Do not use direct water stream. May spread fire. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Water fog, applied gently may be used as a blanket for fire extinguishment. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to section 7, Handling, for additional precautionary measures. See Section 10 for more specific information. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up: Contain spilled material if possible. Absorb with materials such as: Cat litter. Sand. Sawdust. Collect in suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

7. HANDLING AND STORAGE

Precautions for safe handling: Avoid contact with eyes. Wash thoroughly after handling. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Conditions for safe storage: Protect from atmospheric moisture. Store in a dry place. Avoid moisture.

Storage stability

Storage temperature:

> 5 - < 35 °C

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
Carbon black	CA AB OEL	TWA	3.5 mg/m ³
	CA BC OEL	TWA Inhalable	3 mg/m ³

	CA QC OEL	TWAEV	3.5 mg/m3
	ACGIH	TWA Inhalable fraction	3 mg/m3
4,4' -Methylenediphenyl diisocyanate	ACGIH	TWA	0.005 ppm
	Dow IHG	TWA	0.005 ppm
	Dow IHG	STEL	0.02 ppm
	CA AB OEL	TWA	0.05 mg/m3 0.005 ppm
	CA BC OEL	TWA	0.005 ppm
	CA BC OEL	C	0.01 ppm
	CA BC OEL	TWA	SKIN, SEN
	CA QC OEL	TWAEV	0.051 mg/m3 0.005 ppm
	CA BC OEL	C	SKIN, SEN
	CA QC OEL	TWAEV	SKIN, SEN
	CA ON OEL	TWA	0.005 ppm
	CA ON OEL	C	0.02 ppm

Consult local authorities for recommended exposure limits.

Although some of the components of this product may have exposure guidelines, no exposure would be expected under normal handling conditions due to the physical state of the material.

Exposure controls

Engineering controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Use safety glasses (with side shields).

Skin protection

Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Butyl rubber. Neoprene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Viton. Examples of acceptable glove barrier materials include: Natural rubber ("latex"). Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl alcohol ("PVA"). Polyvinyl chloride ("PVC" or "vinyl"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions, no respiratory protection should be needed; however, if handling at elevated temperatures without sufficient ventilation, use an approved air-purifying respirator.

The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical state	Paste
Color	Black
Odor	Odorless
Odor Threshold	No test data available
pH	No test data available
Melting point/range	No test data available
Freezing point	No test data available
Boiling point (760 mmHg)	No test data available
Flash point	closed cup > 110 °C <i>ASTM D3278</i>
Evaporation Rate (Butyl Acetate = 1)	No test data available
Flammability (solid, gas)	The product is not flammable.
Lower explosion limit	No test data available
Upper explosion limit	No test data available
Vapor Pressure	No test data available
Relative Vapor Density (air = 1)	No test data available
Relative Density (water = 1)	1.15 <i>ASTM D1475</i>
Water solubility	No test data available
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No test data available
Decomposition temperature	No test data available
Kinematic Viscosity	No test data available
Explosive properties	No test data available
Oxidizing properties	No test data available
Molecular weight	No data available
Volatile Organic Compounds	0.07 lb/gln <i>EPA Method No. 24</i> (typical value)

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: No dangerous reaction known under conditions of normal use.

Chemical stability: Stable under recommended storage conditions. See Storage, Section 7.

Possibility of hazardous reactions: Polymerization will not occur.

Conditions to avoid: Some components of this product can decompose at elevated temperatures. Avoid moisture.

Incompatible materials: Reaction with water will generate heat. Avoid contact with: Acids. Alcohols. Amines. Water. Ammonia. Bases. Metal compounds. Moist air. Strong oxidizers. Reaction with water will generate carbon dioxide.

Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials. Gases are released during decomposition.

11. TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Acute toxicity

Acute oral toxicity

Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. May cause nausea and vomiting. May cause abdominal discomfort or diarrhea. Single dose oral LD50 has not been determined.

Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts. The dermal LD50 has not been determined.

Acute inhalation toxicity

At room temperature, exposure to vapor is minimal due to low volatility. Vapor from heated material may cause respiratory irritation and other effects. May cause nausea and vomiting. This material contains mineral and/or inorganic fillers. There is essentially no potential for inhalation exposure to these fillers incidental to industrial handling due to the physical state. The LC50 has not been determined.

Skin corrosion/irritation

Prolonged contact may cause slight skin irritation with local redness. Material may stick to skin causing irritation upon removal. May stain skin.

Serious eye damage/eye irritation

May cause eye irritation.

Sensitization

For skin sensitization:
No relevant data found.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Contains component(s) which have been reported to cause effects on the following organs in animals:
Liver.
Kidney.

Carcinogenicity

Contains a phthalate ester which has caused cancer in rats and mice given high dietary doses. The material is considered to be a weak carcinogen in rodents but is not believed to pose a carcinogenic risk to humans at typical use conditions. For the phthalate ester(s): Kidney effects and/or tumors have been observed in male rats. These effects are believed to be species specific and unlikely to occur in humans. Liver effects and/or tumors have been observed in rats. These effects are believed to be species specific and unlikely to occur in humans.

Teratogenicity

Contains component(s) which did not cause birth defects in animals; other fetal effects occurred only at doses toxic to the mother.

Reproductive toxicity

For the phthalate ester(s): In laboratory animals, excessive doses toxic to the parent animals caused decreased weight and survival of offspring. There were no effects on fertility at any dose. For the phthalate ester component: Minimal effects on reproduction considered secondary to parental toxicity were observed when given to animals at very high dietary doses. A lower dose produced parental toxicity but no reproductive effects. There were no effects on fertility at any dose.

Mutagenicity

Contains a component(s) which were negative in in vitro genetic toxicity studies.

Aspiration Hazard

Based on physical properties, not likely to be an aspiration hazard.

COMPONENTS INFLUENCING TOXICOLOGY:

MDI based urethane polymer P83-1015

Acute oral toxicity

For similar material(s): May cause nausea and vomiting. May cause abdominal discomfort or diarrhea. LD50, Rat, > 2,000 mg/kg Estimated.

Acute dermal toxicity

The dermal LD50 has not been determined.

Acute inhalation toxicity

The LC50 has not been determined.

Carbon black

Acute oral toxicity

LD50, Rat, > 8,000 mg/kg

Acute dermal toxicity

LD50, Rabbit, > 3,000 mg/kg No deaths occurred at this concentration.

Acute inhalation toxicity

LC50, Rat, 1 Hour, dust/mist, 27 mg/l No deaths occurred at this concentration.

Diisononyl phthalate

Acute oral toxicity

LD50, Rat, > 10,000 mg/kg

Acute dermal toxicity

LD50, Rabbit, > 3,160 mg/kg No deaths occurred at this concentration.

Acute inhalation toxicity

LC50, Rat, male and female, 4 Hour, dust/mist, > 4.4 mg/l No deaths occurred following exposure to a saturated atmosphere.

Phthalic acid, di-C8-10-branched alkyl esters, C9-rich

Acute oral toxicity

LD50, Rat, > 10,000 mg/kg

Acute dermal toxicity

LD50, Rabbit, > 3,160 mg/kg No deaths occurred at this concentration.

Acute inhalation toxicity

LC50, Rat, male and female, 4 Hour, dust/mist, > 4.4 mg/l No deaths occurred following exposure to a saturated atmosphere.

4,4' -Methylenediphenyl diisocyanate

Acute oral toxicity

LD50, Rat, > 2,000 mg/kg No deaths occurred at this concentration.

Acute dermal toxicity

LD50, Rabbit, > 9,400 mg/kg

Acute inhalation toxicity

LC50, Rat, 1 Hour, dust/mist, 2.24 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

Toxicity

MDI based urethane polymer P83-1015

Acute toxicity to fish

Not expected to be acutely toxic to aquatic organisms.

Carbon black

Acute toxicity to fish

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

LC50, Leuciscus idus (Golden orfe), static test, 96 Hour, > 1,000 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), 24 Hour, > 5,600 mg/l, OECD Test Guideline 202 or Equivalent

Diisononyl phthalate

Acute toxicity to fish

Not expected to be acutely toxic to aquatic organisms.

Phthalic acid, di-C8-10-branched alkyl esters, C9-rich

Acute toxicity to fish

Not expected to be acutely toxic to aquatic organisms.

4,4' -Methylenediphenyl diisocyanate

Acute toxicity to fish

The measured ecotoxicity is that of the hydrolyzed product, generally under conditions maximizing production of soluble species.

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

Based on information for a similar material:

LC50, Danio rerio (zebra fish), static test, 96 Hour, > 1,000 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates

Based on information for a similar material:

EC50, Daphnia magna (Water flea), static test, 24 Hour, > 1,000 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants

Based on information for a similar material:

NOEC, Desmodesmus subspicatus (green algae), static test, 72 Hour, Growth rate inhibition, 1,640 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria

Based on information for a similar material:

EC50, activated sludge, static test, 3 Hour, Respiration rates., > 100 mg/l

Toxicity to soil-dwelling organisms

EC50, Eisenia fetida (earthworms), Based on information for a similar material:, 14 d, > 1,000 mg/kg

Toxicity to terrestrial plants

EC50, Avena sativa (oats), Growth inhibition, 1,000 mg/l

EC50, Lactuca sativa (lettuce), Growth inhibition, 1,000 mg/l

Persistence and degradability

MDI based urethane polymer P83-1015

Biodegradability:

Surface photodegradation is expected with exposure to sunlight. No appreciable biodegradation is expected.

Carbon black

Biodegradability: Biodegradation is not applicable.

Diisononyl phthalate

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability).

10-day Window: Not applicable

Biodegradation: 74 %
Exposure time: 28 d
Method: OECD Test Guideline 301C or Equivalent
10-day Window: Not applicable
Biodegradation: > 99 %
Exposure time: 28 d
Method: OECD Test Guideline 302A or Equivalent
10-day Window: Not applicable
Biodegradation: 70.5 %
Exposure time: 28 d
Method: OECD Test Guideline 301F or Equivalent

Theoretical Oxygen Demand: 2.64 mg/mg

Stability in Water (1/2-life)

Hydrolysis, half-life, 3.4 year, pH 7, Half-life Temperature 25 °C, Estimated.
Hydrolysis, half-life, 0.34 year, pH 8, Half-life Temperature 25 °C, Estimated.

Photodegradation

Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Atmospheric half-life: 5.487 Hour
Method: Estimated.

Phthalic acid, di-C8-10-branched alkyl esters, C9-rich

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability).
10-day Window: Not applicable
Biodegradation: 74 %
Exposure time: 28 d
Method: OECD Test Guideline 301C or Equivalent
10-day Window: Not applicable
Biodegradation: > 99 %
Exposure time: 28 d
Method: OECD Test Guideline 302A or Equivalent
10-day Window: Not applicable
Biodegradation: 70.5 %
Exposure time: 28 d
Method: OECD Test Guideline 301F or Equivalent

Theoretical Oxygen Demand: 2.64 mg/mg

Stability in Water (1/2-life)

Hydrolysis, half-life, 3.4 year, pH 7, Half-life Temperature 25 °C
Hydrolysis, half-life, 125.2 d, pH 8, Half-life Temperature 25 °C

Photodegradation

Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Atmospheric half-life: 5.487 Hour
Method: Estimated.

4,4' -Methylenediphenyl diisocyanate

Biodegradability: In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble polyureas which appear to be stable. In the atmospheric environment, material is expected to have a short tropospheric half-life, based on calculations and by analogy with related diisocyanates.

10-day Window: Not applicable

Biodegradation: 0 %

Exposure time: 28 d

Method: OECD Test Guideline 302C or Equivalent

Bioaccumulative potential

MDI based urethane polymer P83-1015

Bioaccumulation: No bioconcentration is expected because of the relatively high molecular weight (MW greater than 1000).

Carbon black

Bioaccumulation: No relevant data found.

Diisononyl phthalate

Bioaccumulation: Bioconcentration potential is low (BCF less than 100 or log Pow greater than 7).

Partition coefficient: n-octanol/water(log Pow): 8.8 - 9.7 OECD Test Guideline 117 or Equivalent

Phthalic acid, di-C8-10-branched alkyl esters, C9-rich

Bioaccumulation: Bioconcentration potential is low (BCF less than 100 or log Pow greater than 7).

Partition coefficient: n-octanol/water(log Pow): 9.37 Estimated.

4,4' -Methylenediphenyl diisocyanate

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3). Reacts with water. In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Bioconcentration factor (BCF): 92 Cyprinus carpio (Carp) 28 d

Mobility in soil

MDI based urethane polymer P83-1015

No relevant data found.

Carbon black

No relevant data found.

Diisononyl phthalate

Expected to be relatively immobile in soil (Koc > 5000).

Partition coefficient (Koc): > 5000 Estimated.

Phthalic acid, di-C8-10-branched alkyl esters, C9-rich

Expected to be relatively immobile in soil (Koc > 5000).

Partition coefficient (Koc): > 5000 Estimated.

4,4' -Methylenediphenyl diisocyanate

In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

13. DISPOSAL CONSIDERATIONS

Disposal methods: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Incinerator or other thermal destruction device.

Treatment and disposal methods of used packaging: Empty containers should be recycled or otherwise disposed of by an approved waste management facility. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. Do not re-use containers for any purpose.

14. TRANSPORT INFORMATION

TDG

Not regulated for transport

Classification for SEA transport (IMO-IMDG):

**Transport in bulk
according to Annex I or II
of MARPOL 73/78 and the
IBC or IGC Code**

Not regulated for transport
Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Not regulated for transport

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

Hazardous Products Act Information: CPR Compliance

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

Hazardous Products Act Information: WHMIS Classification

Hazards

D2B Eye or Skin Irritant

Canadian Domestic Substances List (DSL) (DSL)

All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

16. OTHER INFORMATION

Hazard Rating System

NFPA

Health	Fire	Reactivity
1	1	1

Revision

Identification Number: 101198915 / A208 / Issue Date: 05/24/2016 / Version: 9.0

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
C	ceiling limit
CA AB OEL	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
CA BC OEL	Canada. British Columbia OEL
CA ON OEL	Ontario Table of Occupational Exposure Limits made under the Occupational Health and Safety Act.
CA QC OEL	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
Dow IHG	Dow Industrial Hygiene Guideline
SKIN, SEN	Absorbed via Skin, Sensitizer
STEL	Short term exposure limit
TWA	Time weighted average
TWAEV	Time-weighted average exposure value

Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

DOW CHEMICAL CANADA ULC urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand

the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.