29 CFR 1910.1200 (OSHA HazCom 2012)

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Trade name : Pliogrip™ 7773/220 ADHESIVE ADHESIVE
™ Trademark, Ashland or its subsidiaries, registered in various countries

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

Recommended use : Adhesives
Industrial chemical

Details of the supplier of the safety data sheet Ashland P.O. Box 2219 Columbus, OH 43216 United States of America (USA) +1-614-790-3333 EHSProductSafety@ashland.com	**Emergency telephone number** 1-800-ASHLAND (1-800-274-5263) **Regulatory Information Number** 1-800-325-3751 **Product Information** +1-614-790-3333

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Inhalation)	:	Category 4
Skin irritation	:	Category 2
Eye irritation	:	Category 2A
Respiratory sensitization	:	Category 1
Skin sensitization	:	Category 1
Reproductive toxicity	:	Category 2
Specific target organ systemic toxicity - single exposure	:	Category 3 (Respiratory system)

Specific target organ systemic toxicity - repeated exposure (Inhalation) : Category 2 (Respiratory system, Respiratory Tract)

GHS label elements

Hazard pictograms :



Signal Word : Danger

Hazard Statements :
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
Harmful if inhaled.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation.
Suspected of damaging fertility or the unborn child.
May cause damage to organs (Respiratory system, Respiratory Tract) through prolonged or repeated exposure if inhaled.

Precautionary Statements : **Prevention:**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
Wash skin thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
In case of inadequate ventilation wear respiratory protection.
Response:
IF ON SKIN: Wash with plenty of soap and water.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/ attention.
If skin irritation or rash occurs: Get medical advice/ attention.
If eye irritation persists: Get medical advice/ attention.

Take off contaminated clothing and wash before reuse.
Storage:
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

PART A
Substance / Mixture : Mixture

Hazardous components

Chemical name	CAS-No.	Classification	Concentration (%)
POLYMER	254504001-5759	Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2A; H319 Resp. Sens. 1A; H334 Skin Sens. 1A; H317 STOT SE 3; H335 STOT RE 2; H373	>= 10.00 - < 15.00
ALUMINUM SILICATES	254504001-5709	This material is not considered hazardous under the OSHA Hazard Communication Standard (HazCom 2012).	>= 10.00 - < 15.00
URETHANE PREPOLYMER	800986-5572P	Resp. Sens. 1; H334	>= 5.00 - < 10.00

		Skin Sens. 1; H317	

The identity and concentration of one or more component(s) is being withheld under business confidentiality.

4,4'-DIPHENYLMETHANE DIISOCYANATE	101-68-8	Comb Dust Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2A; H319 Resp. Sens. 1; H334 Skin Sens. 1; H317 STOT SE 3; H335 STOT RE 2; H373	35.5153
TALC	14807-96-6	This material is not considered hazardous under the OSHA Hazard Communication Standard (HazCom 2012).	10.224
PROPYLENE CARBONATE	108-32-7	Eye Irrit. 2A; H319	1.4964

PART B
Substance / Mixture : Mixture

Hazardous components

Chemical name	CAS-No.	Classification	Concentration (%)

TALC	14807-96-6	This material is not considered hazardous under the OSHA Hazard Communication Standard (HazCom 2012).	22.731
PIPERAZINE	110-85-0	Flam. Sol. 1; H228 Skin Corr. 1B; H314 Eye Dam. 1; H318 Resp. Sens. 1B; H334 Skin Sens. 1B; H317 Repr. 2; H361	0.767

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Call a POISON CENTRE or doctor/physician if exposed or you feel unwell.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : Move to fresh air.
Call a physician or poison control centre immediately.
Keep patient warm and at rest.
If unconscious, place in recovery position and seek medical advice.

In case of skin contact : Remove contaminated clothing. If irritation develops, get medical attention.
If on skin, rinse well with water.
Wash contaminated clothing before re-use.

In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.

Protect unharmed eye.

If swallowed	:	Obtain medical attention. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
Most important symptoms and effects, both acute and delayed	:	Pulmonary edema may be delayed. Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea) irritation (nose, throat, airways) Cough Headache chest pain lung edema (fluid buildup in the lung tissue) Difficulty in breathing Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation. Suspected of damaging fertility or the unborn child.
Notes to physician	:	No hazards which require special first aid measures.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray Foam Carbon dioxide (CO2) Dry chemical
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during firefighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion	:	carbon dioxide and carbon monoxide

products		Hydrogen cyanide (hydrocyanic acid) Isocyanates Nitrogen oxides (NOx) toxic fumes Aldehydes Ketones halogenated hydrocarbons nitrogen oxides (NOx) Bromine Hydrocarbons
Specific extinguishing methods	:	Product is compatible with standard fire-fighting agents.
Further information	:	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Ensure adequate ventilation. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.
Other information	:	Comply with all applicable federal, state, and local regulations.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	Avoid formation of aerosol. Provide sufficient air exchange and/or exhaust in work rooms.

Do not breathe vapours/dust.
Do not smoke.
Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
Container hazardous when empty.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
Smoking, eating and drinking should be prohibited in the application area.
For personal protection see section 8.
Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
Observe label precautions.
Electrical installations / working materials must comply with the technological safety standards.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

PART A

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
ALUMINUM SILICATES	254504001-5709	TWA	1 mg/m3 Respirable fraction (Aluminium)	ACGIH
The identity and concentration of one or more component(s) is being withheld under business confidentiality.				
4,4'-DIPHENYLMETHANE DIISOCYANATE	101-68-8	TWA	0.005 ppm	ACGIH
TALC	14807-96-6	TWA	20 Million particles per cubic foot Dust	OSHA Z-3

		TWA	2 mg/m3 respirable dust fraction	OSHA P0
		TWA	2 mg/m3 Respirable	NIOSH REL
		PEL	2 mg/m3 Respirable dust	CAL PEL
		TWA	0.1 fibres per cubic centimeter	ACGIH
		TWA	2 mg/m3 Respirable fraction	ACGIH

Hazardous components without workplace control parameters

PART A

Components	CAS-No.
POLYMER	254504001-5759
URETHANE PREPOLYMER	800986-5572P

PART A

PROPYLENE CARBONATE	108-32-7

PART B

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
TALC	14807-96-6	TWA	20 Million particles per cubic foot Dust	OSHA Z-3
		TWA	2 mg/m3 respirable dust fraction	OSHA P0
		TWA	2 mg/m3 Respirable	NIOSH REL
		PEL	2 mg/m3 Respirable dust	CAL PEL
		TWA	0.1 fibres per cubic centimeter	ACGIH
		TWA	2 mg/m3 Respirable fraction	ACGIH

PIPERAZINE	110-85-0	TWA	0.03 ppm Inhalable fraction and vapor (piperazine)	ACGIH

Hazardous components without workplace control parameters

PART B

Components	CAS-No.
PIPERAZINE	110-85-0

Engineering measures : Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Personal protective equipment

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.
Diisocyanates have poor warning properties. An air-purifying respirator with an organic vapor cartridge and an N95 prefilter can be used safely and effectively to reduce exposure, provided that appropriate cartridge change schedules are developed to ensure that cartridges are changed before breakthrough occurs. The employer is required to select the appropriate respirator for each situation and must consider potential exposure to chemicals in addition to diisocyanates.

Hand protection
Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Wear chemical splash goggles when there is the potential for exposure of the eyes to liquid, vapor or mist.

Skin and body protection : Wear as appropriate:
Impervious clothing
Safety shoes
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Discard gloves that show tears, pinholes, or signs of wear.
Wear resistant gloves (consult your safety equipment supplier).

Hygiene measures : Wash hands before breaks and at the end of workday.
When using do not eat or drink.
When using do not smoke.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

PART A

Appearance	:	viscous
Physical state	:	liquid
Colour	:	beige
Odour	:	No data available
Odour Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	No data available
Boiling point/boiling range	:	> 392 °F / > 200 °C
Flash point	:	> 100 °C
Evaporation rate	:	< 1 n-Butyl Acetate = 1
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapour pressure	:	< 0.01333 hPa (25 °C)
Relative vapour density	:	> 1(Air = 1.0)
Relative density	:	No data available
Density	:	1.288 g/cm3 (20 °C)
Solubility(ies)		
Water solubility	:	practically insoluble
Solubility in other solvents	:	No data available

Partition coefficient: n-octanol/water	:	No data available
Thermal decomposition	:	No data available
Viscosity		
Viscosity, dynamic	:	ca. 20,000 mPa.s
Viscosity, kinematic	:	No data available
Oxidizing properties	:	No data available

PART B

Physical state	:	liquid
Odour	:	No data available
Odour Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	> 93.4 °C Method: Seta closed cup
Evaporation rate	:	1 Ethyl Ether = 1
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapour pressure	:	3 hPa (25 °C) Calculated Vapor Pressure
Relative vapour density	:	> 1(Air = 1.0)
Relative density	:	1.225 (25 °C)

Density	:	1.225 g/cm3 (20 °C)
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Thermal decomposition	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Oxidizing properties	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	Stable under recommended storage conditions.
Possibility of hazardous reactions	:	Product will not undergo hazardous polymerization.
Conditions to avoid	:	heat Freezing temperatures. Exposure to moisture
Incompatible materials	:	Acids Alcohols aluminum Amines Ammonia Bases Copper alloys fluorides Iron isocyanates Oxidizing agents oxidizers

	Phosphorus compounds strong alkalis strong reducing agents water Zinc Humid air
Hazardous decomposition products	carbon dioxide and carbon monoxide Hydrocarbons Hydrogen cyanide (hydrocyanic acid) Isocyanates Nitrogen oxides (NOx)

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation
Skin contact
Eye Contact
Ingestion

Acute toxicity
Harmful if inhaled.
Components:
POLYMER**:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 425
GLP: yes

Acute inhalation toxicity : Assessment: The component/mixture is classified as acute inhalation toxicity, category 4.

Acute dermal toxicity : (Rabbit): > 9,400 mg/kg
Remarks: Information given is based on data obtained from similar substances.

Components:
4,4'-DIPHENYLMETHANE DIISOCYANATE**:**

Acute oral toxicity : LD50 (Rat): 9,200 mg/kg

Acute inhalation toxicity : LC50 (Rat): 0.369 mg/l
Exposure time: 4 h

LC50 (Rat): > 2.24 mg/l
Exposure time: 1 h

Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The component/mixture is classified as acute inhalation toxicity, category 4.

Acute dermal toxicity : LD50 (Rabbit): > 7,900 mg/kg

TALC**:**
Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 423

PROPYLENE CARBONATE**:**
Acute oral toxicity : LD50 (Rat): 29.1 g/kg

Acute dermal toxicity : LD50 (Rabbit): > 24 g/kg

PIPERAZINE**:**
Acute oral toxicity : LD50 (Rat): ca. 2,600 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC0 (Rat, male and female): 1.61 mg/l
Exposure time: 8 h
Test atmosphere: vapour

Skin corrosion/irritation
Causes skin irritation.
Product:
Remarks: May cause skin irritation and/or dermatitis.

Components:
POLYMER**:**
Result: Irritating to skin.
Remarks: Information given is based on data obtained from similar substances.

ALUMINUM SILICATES**:**
Result: Slight, transient irritation

URETHANE PREPOLYMER**:**
Result: No skin irritation

Components:
4,4'-DIPHENYLMETHANE DIISOCYANATE**:**
Result: Irritating to skin.

TALC**:**
Species: reconstructed human epidermis (RhE)
Result: No skin irritation

PROPYLENE CARBONATE**:**
Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation

PIPERAZINE**:**
Result: Corrosive after 3 minutes to 1 hour of exposure

Serious eye damage/eye irritation
Causes serious eye irritation.
Product:
Remarks: Vapours may cause irritation to the eyes, respiratory system and the skin., Causes serious eye irritation.

Components:
POLYMER**:**
Result: No eye irritation
Remarks: Information given is based on data obtained from similar substances.

Result: Irritating to eyes.

ALUMINUM SILICATES**:**
Result: Slight, transient irritation

URETHANE PREPOLYMER**:**
Result: No eye irritation

Components:
4,4'-DIPHENYLMETHANE DIISOCYANATE**:**
Result: Irritating to eyes.

TALC**:**
Species: Rabbit
Result: Slight, transient irritation
Method: OECD Test Guideline 405

PROPYLENE CARBONATE**:**
Species: Rabbit
Result: Irritating to eyes.
Method: OECD Test Guideline 405

PIPERAZINE**:**
Result: Corrosive

Respiratory or skin sensitisation
Skin sensitisation: May cause an allergic skin reaction.
Respiratory sensitisation: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Components:
POLYMER**:**
Test Type: Maximisation Test
Species: Guinea pig
Assessment: May cause sensitisation by skin contact.
Result: The product is a skin sensitiser, sub-category 1A.

Assessment: May cause sensitization by inhalation.
Result: The product is a respiratory sensitiser, sub-category 1A.

URETHANE PREPOLYMER**:**
Assessment: May cause sensitisation by skin contact.

Assessment: May cause sensitization by inhalation.

Components:
4,4'-DIPHENYLMETHANE DIISOCYANATE**:**
Assessment: May cause sensitisation by inhalation.

Assessment: May cause sensitisation by skin contact.

TALC**:**
Test Type: Maximisation Test
Species: Guinea pig
Assessment: Did not cause sensitisation on laboratory animals.
Method: OECD Test Guideline 406
Result: Did not cause sensitisation on laboratory animals.

PIPERAZINE**:**
Assessment: The product is a respiratory sensitiser, sub-category 1B.

Assessment: The product is a skin sensitiser, sub-category 1B.

Germ cell mutagenicity
Not classified based on available information.
Components:
POLYMER**:**
Genotoxicity in vitro : Test Type: Ames test
Result: negative

Remarks: Information given is based on data obtained from similar substances.

Genotoxicity in vivo : Test Type: In vivo micronucleus test
Test species: Rat
Method: OECD Test Guideline 474
Remarks: Information given is based on data obtained from similar substances.

Components:

TALC:

Genotoxicity in vitro : Test Type: In vitro gene mutation study in bacteria
Test species: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Result: negative

: Test Type: In vitro gene mutation study in bacteria
Test species: Saccharomyces cerevisiae
Metabolic activation: with and without metabolic activation
Result: negative

Genotoxicity in vivo : Test Type: dominant lethal test
Test species: Rat (male)
Cell type: Bone marrow
Result: negative

PROPYLENE CARBONATE:

Genotoxicity in vitro : Test Type: Ames test
Test species: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test
Test species: Mouse
Cell type: Bone marrow
Method: OECD Test Guideline 474
Result: negative

Carcinogenicity

Not classified based on available information.

Product:

Carcinogenicity - Assessment : Methylene bisphenylisocyanate (MDI) aerosol has been reported to be irritating to lungs at a concentration of 1 mg/m3 with no effect observed at 0.2 mg/m3. Although MDI has been reported to cause an increase in non-carcinogenic lung tumors and a single carcinogenic lung tumor at very high

concentrations (6 mg/m3), it is not classified as a carcinogen by IARC, NTP or OSHA.

Reproductive toxicity
Suspected of damaging fertility or the unborn child.
Components:
PIPERAZINE**:**
Reproductive toxicity - Assessment : Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.

STOT - single exposure
May cause respiratory irritation.
Components:
POLYMER**:**
Exposure routes: Inhalation
Target Organs: Respiratory Tract
Assessment: May cause respiratory irritation.

Components:
4,4'-DIPHENYLMETHANE DIISOCYANATE**:**
Exposure routes: Inhalation
Target Organs: Respiratory system
Assessment: May cause respiratory irritation.

STOT - repeated exposure
Not classified based on available information.
Components:
POLYMER**:**
Exposure routes: Inhalation
Target Organs: Respiratory Tract
Assessment: May cause damage to organs through prolonged or repeated exposure.

Components:
4,4'-DIPHENYLMETHANE DIISOCYANATE**:**
Exposure routes: Inhalation
Target Organs: Respiratory system
Assessment: May cause damage to organs through prolonged or repeated exposure.

Aspiration toxicity
Not classified based on available information.
Further information
Product:
Remarks: No data available

Carcinogenicity:
IARC No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed

human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Ecotoxicology Assessment

Acute aquatic toxicity : Not classified based on available information.

Chronic aquatic toxicity : Not classified based on available information.

Components:

POLYMER**:**

Toxicity to fish : LC50 (Oryzias latipes (Japanese medaka)): > 3,000 mg/l
Exposure time: 96 h
Test Type: semi-static test
Remarks: Information given is based on data obtained from similar substances.

Toxicity to daphnia and other aquatic invertebrates : (Daphnia magna (Water flea)): > 1,000 mg/l
Exposure time: 24 h
Test Type: static test
Method: OECD Test Guideline 202
Remarks: Information given is based on data obtained from similar substances.

Toxicity to algae : NOEC (Desmodesmus subspicatus (green algae)): 1,640 mg/l
End point: Growth inhibition
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
Remarks: Information given is based on data obtained from similar substances.

4,4'-DIPHENYLMETHANE DIISOCYANATE**:**

Toxicity to fish : LC50 (Oryzias latipes (Orange-red killifish)): > 3,000 mg/l
Exposure time: 96 h
Test Type: semi-static test

Remarks: Information given is based on data obtained from similar substances.

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 24 h
Test Type: static test
Method: OECD Test Guideline 202
Remarks: Information given is based on data obtained from similar substances.

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): > 10 mg/l
Exposure time: 21 d
End point: Reproduction Test
Test Type: semi-static test
Method: OECD Test Guideline 211
Remarks: Information given is based on data obtained from similar substances.

PROPYLENE CARBONATE:

Toxicity to fish : LC50 (Cyprinus carpio (Carp)): > 1,000 mg/l
Exposure time: 96 h
Test Type: semi-static test
Method: Directive 67/548/EEC, Annex V, C.1.

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1,000 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202

Toxicity to algae : EC50 (Desmodesmus subspicatus (green algae)): > 900 mg/l
End point: Growth inhibition
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201

NOEC (Desmodesmus subspicatus (green algae)): 900 mg/l
End point: Growth inhibition
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201

PIPERAZINE:

Toxicity to fish : LC50 (Poecilia reticulata (guppy)): > 1,800 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 21 mg/l
Exposure time: 48 h

Method: OECD Test Guideline 202

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): > 1,000 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 12.5 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211

Persistence and degradability
Components:
POLYMER**:**
Biodegradability : Result: Not readily biodegradable.
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 302C

4,4'-DIPHENYLMETHANE DIISOCYANATE**:**
Biodegradability : Result: Not biodegradable
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 302C
Remarks: Information given is based on data obtained from similar substances.

TALC**:**
Biodegradability : Result: The methods for determining biodegradability are not applicable to inorganic substances.

PROPYLENE CARBONATE**:**
Biodegradability : Result: Readily biodegradable.
Biodegradation: 87.1 %
Exposure time: 29 d
Method: OECD Test Guideline 301B

PIPERAZINE**:**
Biodegradability : Result: Readily biodegradable.
Biodegradation: 70 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

No data available
Bioaccumulative potential
Components:
PROPYLENE CARBONATE**:**

Partition coefficient: n-octanol/water : log Pow: -0.41

PIPERAZINE**:**
Partition coefficient: n-octanol/water : log Pow: -1.17

No data available
Mobility in soil
Components:
No data available
Other adverse effects
No data available
Product:
Additional ecological information : No data available

Components:

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

General advice : Do not dispose of waste into sewer.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

Dispose of in accordance with all applicable local, state and federal regulations.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.

MX_DG

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

Not dangerous goods

INTERNATIONAL MARITIME DANGEROUS GOODS

Not dangerous goods

TDG_INWT_C

Not dangerous goods

TDG_RAIL_C

Not dangerous goods

TDG_ROAD_C

Not dangerous goods

U.S. DOT - INLAND WATERWAYS

Not dangerous goods

CFR_RAIL_C

Not dangerous goods

U.S. DOT - ROAD

Not dangerous goods

***ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

Marine pollutant		no

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

SECTION 15. REGULATORY INFORMATION

PART A
EPCRA - Emergency Planning and Community Right-to-Know Act
CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
4,4'-DIPHENYLMETHANE DIISOCYANATE	101-68-8	5000	14078

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitisation
Specific target organ toxicity (single or repeated exposure)

SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

SARA 313 The following components are subject to reporting levels established by SARA Title III, Section 313:
4,4'-DIPHENYLMETHANE DIISOCYANATE 101-68-8 35.51 %

California Prop 65 WARNING! This product contains a chemical known to the State of California to cause cancer.
TALC 14807-96-6

QUARTZ / SAND 14808-60-7

PART B
EPCRA - Emergency Planning and Community Right-to-Know Act
CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.
SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Reproductive toxicity

SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

SARA 313 This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop 65 WARNING! This product contains a chemical known to the State of California to cause cancer.

TALC	14807-96-6
QUARTZ / SAND	14808-60-7
CARBON BLACK	1333-86-4

The components of this product are reported in the following inventories:

TSCA	:	On TSCA Inver
DSL	:	All components
AICS	:	On the inventor
ENCS	:	Exempt
KECI	:	On the inventor
PICCS	:	Not in complian
IECSC	:	On the inventor

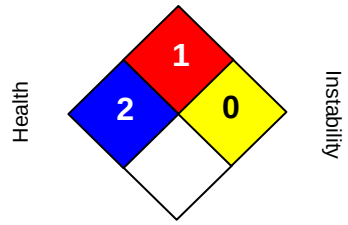
Inventories
AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

Registration: Trade secret

Chemical name	Identification number
POLYMER	254504001-5759
ALUMINUM SILICATES	254504001-5709
URETHANE PREPOLYMER	800986-5572P

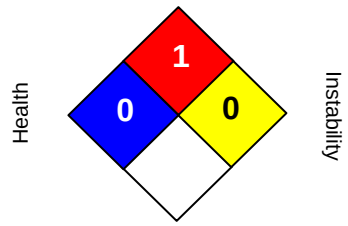
SECTION 16. OTHER INFORMATION

Further information
Revision Date: 02/24/2018
PART A

NFPA:	HMIS III:
Flammability  Special hazard.	HEALTH FLAMMABILITY PHYSICAL HAZARD 0 = not significant, 1 =Slight, 2 = Moderate, 3 = High 4 = Extreme, * = Chronic

NFPA Flammable and Combustible Liquids Classification
Combustible Liquid Class IIIB

PART B

NFPA:	HMIS III:
Flammability  Special hazard.	HEALTH FLAMMABILITY PHYSICAL HAZARD 0 = not significant, 1 =Slight, 2 = Moderate, 3 = High 4 = Extreme, * = Chronic

NFPA Flammable and Combustible Liquids Classification
Combustible Liquid Class IIIB

Full text of H-Statements

PART A

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure if inhaled.

PART B

H228	Flammable solid.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H361	Suspected of damaging fertility or the unborn child.

Sources of key data used to compile the Safety Data Sheet
Ashland internal data including own and sponsored test reports
The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Ashland's Environmental Health and Safety Department (1-800-325-3751).

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet :
ACGIH : American Conference of Industrial Hygienists
BEI : Biological Exposure Index
CAS : Chemical Abstracts Service (Division of the American Chemical Society).
CMR : Carcinogenic, Mutagenic or Toxic for Reproduction
FG : Food grade
GHS : Globally Harmonized System of Classification and Labeling of Chemicals.
H-statement : Hazard Statement
IATA : International Air Transport Association.
IATA-DGR : Dangerous Goods Regulation by the “International Air Transport Association” (IATA).

ICAO : International Civil Aviation Organization

ICAO-TI (ICAO) : Technical Instructions by the “International Civil Aviation Organization”
IMDG : International Maritime Code for Dangerous Goods
ISO : International Organization for Standardization
logPow : octanol-water partition coefficient
LCxx : Lethal Concentration, for xx percent of test population
LDxx : Lethal Dose, for xx percent of test population.
ICxx : Inhibitory Concentration for xx of a substance
Ecxx : Effective Concentration of xx
N.O.S.: Not Otherwise Specified
OECD : Organization for Economic Co-operation and Development
OEL : Occupational Exposure Limit
P-Statement : Precautionary Statement
PBT : Persistent , Bioaccumulative and Toxic
PPE : Personal Protective Equipment
STEL : Short-term exposure limit
STOT : Specific Target Organ Toxicity
TLV : Threshold Limit Value
TWA : Time-weighted average
vPvB : Very Persistent and Very Bioaccumulative
WEL : Workplace Exposure Level

CERCLA : Comprehensive Environmental Response, Compensation, and Liability Act
DOT : Department of Transportation
FIFRA : Federal Insecticide, Fungicide, and Rodenticide Act
HMIRC : Hazardous Materials Information Review Commission
HMIS : Hazardous Materials Identification System
NFPA : National Fire Protection Association
NIOSH : National Institute for Occupational Safety and Health
OSHA : Occupational Safety and Health Administration
PMRA : Health Canada Pest Management Regulatory Agency
RTK : Right to Know
WHMIS : Workplace Hazardous Materials Information System