



# SAFETY DATA SHEET

## 1. Identification

**Material name:** Flowfresh Single Pack - Hardener B - 5#  
**Material:** 101 FRESH B SINGLE

### Recommended use and restriction on use

**Recommended use:** Curative  
**Restrictions on use:** Not known.

### Manufacturer/Importer/Supplier/Distributor Information

Euclid Admixture Canada Inc.  
2835 Grand-Allee  
Saint Hubert QC J4T 2R4  
CA

**Contact person:** EH&S Department  
**Telephone:** (450)465-2233  
**Emergency telephone number:** 1-800-424-9300 (US); 1-613-996-6666 (Canada)

## 2. Hazard(s) identification

### Hazard Classification

#### Health Hazards

Acute toxicity (Inhalation - dust and mist)	Category 4
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2A
Respiratory sensitizer	Category 1
Skin sensitizer	Category 1
Carcinogenicity	Category 2
Specific Target Organ Toxicity - Single Exposure	Category 3 <sup>1</sup> .
Specific Target Organ Toxicity - Repeated Exposure	Category 1

#### Target Organs

1. Respiratory tract irritation.

#### Unknown toxicity - Health

Acute toxicity, oral	0 %
Acute toxicity, dermal	0 %
Acute toxicity, inhalation, vapor	100 %
Acute toxicity, inhalation, dust or mist	50 %

### Label Elements

**Hazard Symbol:****Signal Word:**

Danger

**Hazard Statement:**

Harmful if inhaled.  
Causes skin irritation.  
Causes serious eye irritation.  
May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
May cause an allergic skin reaction.  
Suspected of causing cancer.  
May cause respiratory irritation.  
Causes damage to organs through prolonged or repeated exposure.

**Precautionary Statements****Prevention:**

Use only outdoors or in a well-ventilated area. Wash thoroughly after handling. Wear protective gloves/ protective clothing/ eye protection/ face protection. [In case of inadequate ventilation] wear respiratory protection. Contaminated work clothing should not be allowed out of the workplace. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product.

**Response:**

IF INHALED: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/ physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Call a POISON CENTER/doctor if you feel unwell. Specific treatment (see on this label). Wash contaminated clothing before reuse.

**Storage:**

Store locked up. Store in a well-ventilated place. Keep container tightly closed.

**Disposal:**

Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

**Hazard(s) not otherwise classified (HNOC):**

None.

**3. Composition/information on ingredients**

**Mixtures**

Chemical Identity	CAS number	Content in percent (%)*
Benzene, 1,1'-methylenebis[4-isocyanato-	101-68-8	50 - <100%
Polymeric MDI	9016-87-9	20 - <50%
Diphenylmethane-2,4'-diisocyanate	5873-54-1	10 - <20%

\* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

**4. First-aid measures****Description of necessary first-aid measures**

<b>Inhalation:</b>	Call a physician or poison control center immediately. If breathing stops, provide artificial respiration. Move to fresh air. If breathing is difficult, give oxygen.
<b>Skin Contact:</b>	Get medical attention. Destroy or thoroughly clean contaminated shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic skin reaction develops, get medical attention.
<b>Eye contact:</b>	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.
<b>Ingestion:</b>	Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
<b>Personal Protection for First-aid Responders:</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Most important symptoms/effects, acute and delayed**

<b>Symptoms:</b>	Prolonged or repeated contact with skin may cause redness, itching, irritation and eczema/chapping. Respiratory tract irritation.
<b>Hazards:</b>	No data available.

**Indication of immediate medical attention and special treatment needed**

<b>Treatment:</b>	Symptoms may be delayed.
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**5. Fire-fighting measures**

<b>General Fire Hazards:</b>	No unusual fire or explosion hazards noted.
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**Suitable (and unsuitable) extinguishing media**

<b>Suitable extinguishing media:</b>	Use fire-extinguishing media appropriate for surrounding materials.
<b>Unsuitable extinguishing media:</b>	Do not use water jet as an extinguisher, as this will spread the fire.



**Specific hazards arising from the chemical:** During fire, gases hazardous to health may be formed.

**Special protective equipment and precautions for fire-fighters**

**Special fire-fighting procedures:** No data available.

**Special protective equipment for fire-fighters:** Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

## 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures:** Ventilate closed spaces before entering them. Evacuate area. See Section 8 of the SDS for Personal Protective Equipment. Keep upwind. Keep unauthorized personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

**Accidental release measures:** In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

**Methods and material for containment and cleaning up:** Dam and absorb spillages with sand, earth or other non-combustible material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.

**Environmental Precautions:** Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

## 7. Handling and storage

### Handling

**Technical measures (e.g. Local and general ventilation):** Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.

**Safe handling advice:** Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Wash hands thoroughly after handling. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Avoid contact with eyes. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin. Avoid contact with eyes, skin, and clothing.

**Contact avoidance measures:** No data available.

**Hygiene measures:** Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. Avoid contact with eyes. Wash contaminated clothing before reuse. Avoid contact with skin. Contaminated work clothing should not be allowed out of the workplace.

### Storage

**Safe storage conditions:** Store locked up.



Safe packaging materials: No data available.

**8. Exposure controls/personal protection****Control Parameters****Occupational Exposure Limits**

Chemical Identity	Type	Exposure Limit Values	Source
Benzene, 1,1'-methylenebis[4-isocyanato-	TWA	0.005 ppm	US. ACGIH Threshold Limit Values, as amended (2008)
	Ceiling	0.02 ppm 0.2 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)

Chemical name	Type	Exposure Limit Values	Source
Benzene, 1,1'-methylenebis[4-isocyanato-	CEILING	0.01 ppm	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (07 2007)
	TWA	0.005 ppm	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (07 2007)
Benzene, 1,1'-methylenebis[4-isocyanato-	CEV	0.02 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
	TWA	0.005 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
Benzene, 1,1'-methylenebis[4-isocyanato-	TWA	0.005 ppm 0.051 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Polymeric MDI	TWA	0.005 ppm	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (07 2007)
	CEILING	0.01 ppm	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (07 2007)
Diphenylmethane-2,4'-diisocyanate	TWA	0.005 ppm	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (07 2007)
	CEILING	0.01 ppm	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (07 2007)

**Appropriate Engineering Controls**

Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection:** Wear safety glasses with side shields (or goggles).

**Skin Protection**

**Hand Protection:** Additional Information: Use suitable protective gloves if risk of skin contact.



<b>Skin and Body Protection:</b>	Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.
<b>Respiratory Protection:</b>	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.
<b>Hygiene measures:</b>	Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. Avoid contact with eyes. Wash contaminated clothing before reuse. Avoid contact with skin. Contaminated work clothing should not be allowed out of the workplace.

## 9. Physical and chemical properties

### Appearance

<b>Physical state:</b>	liquid
<b>Form:</b>	liquid
<b>Color:</b>	Brown
<b>Odor:</b>	Mild pungent
<b>Odor threshold:</b>	No data available.
<b>pH:</b>	No data available.
<b>Melting point/freezing point:</b>	No data available.
<b>Initial boiling point and boiling range:</b>	300 °C 572 °F
<b>Flash Point:</b>	220 °C 428 °F
<b>Evaporation rate:</b>	Slower than Ether
<b>Flammability (solid, gas):</b>	No
<b>Upper/lower limit on flammability or explosive limits</b>	
<b>Flammability limit - upper (%):</b>	No data available.
<b>Flammability limit - lower (%):</b>	No data available.
<b>Explosive limit - upper:</b>	No data available.
<b>Explosive limit - lower:</b>	No data available.
<b>Vapor pressure:</b>	No data available.
<b>Vapor density:</b>	Vapors are heavier than air and may travel along the floor and in the bottom of containers.
<b>Relative density:</b>	1.24
<b>Solubility(ies)</b>	
<b>Solubility in water:</b>	Practically Insoluble
<b>Solubility (other):</b>	No data available.
<b>Partition coefficient (n-octanol/water):</b>	No data available.
<b>Auto-ignition temperature:</b>	No data available.



**Decomposition temperature:** No data available.  
**Viscosity:** No data available.

## 10. Stability and reactivity

**Reactivity:** No data available.

**Chemical Stability:** Material is stable under normal conditions.

**Possibility of hazardous reactions:** No data available.

**Conditions to avoid:** Avoid heat or contamination.

**Incompatible Materials:** Avoid contact with acids.

**Hazardous Decomposition Products:** Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

## 11. Toxicological information

### Information on likely routes of exposure

**Inhalation:** In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.

**Skin Contact:** Causes skin irritation. May cause an allergic skin reaction.

**Eye contact:** Causes serious eye irritation.

**Ingestion:** May be harmful if swallowed.

### Symptoms related to the physical, chemical and toxicological characteristics

**Inhalation:** No data available.

**Skin Contact:** No data available.

**Eye contact:** No data available.

**Ingestion:** No data available.

### Information on toxicological effects

#### Acute toxicity (list all possible routes of exposure)

**Oral Product:** Not classified for acute toxicity based on available data.

**Specified substance(s):**

Benzene, 1,1'-methylenebis[4-isocyanato-

LD 50 (Rat): 31,600 mg/kg

Polymeric MDI

LD 50 (Rat): > 2,000 mg/kg

Diphenylmethane-2,4'-diisocyanate

LD 50 (Rat): > 10,000 mg/kg

**Dermal****Product:**

Not classified for acute toxicity based on available data.

**Specified substance(s):**

Polymeric MDI

LD 50 (Rabbit): > 9,400 mg/kg

Diphenylmethane-2,4'-diisocyanate

LD 50 (Rabbit): > 9,400 mg/kg

**Inhalation****Product:**

ATEmix: 1.5 mg/l

**Repeated dose toxicity****Product:**

No data available.

**Specified substance(s):**

Benzene, 1,1'-methylenebis[4-isocyanato-

LOAEL (Rat, Inhalation - dust and mist): 0.001 mg/l (Target Organ(s): Respiratory system)

**Skin Corrosion/Irritation****Product:**

No data available.

**Specified substance(s):**

Benzene, 1,1'-methylenebis[4-isocyanato-

in vivo (Rabbit): Irritating , 24 - 72 h

Diphenylmethane-2,4'-diisocyanate

in vivo (Rabbit): Irritating , 24 - 72 h

**Serious Eye Damage/Eye Irritation****Product:**

No data available.

**Respiratory or Skin Sensitization****Product:**

May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
May cause sensitization by inhalation.

**Carcinogenicity****Product:**

Suspected of causing cancer.

**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:**

No carcinogenic components identified

**US. National Toxicology Program (NTP) Report on Carcinogens:**

No carcinogenic components identified

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended:**

No carcinogenic components identified

**Germ Cell Mutagenicity****In vitro****Product:** No data available.**In vivo****Product:** No data available.**Reproductive toxicity****Product:** No data available.**Specific Target Organ Toxicity - Single Exposure****Product:** No data available.**Specified substance(s):**

Benzene, 1,1'-methylenebis[4-isocyanato-

Polymeric MDI

Inhalation - dust and mist: Respiratory system - Category 3 with respiratory tract irritation.

Inhalation - dust and mist: Respiratory system - Category 3 with respiratory tract irritation.

**Specific Target Organ Toxicity - Repeated Exposure****Product:** No data available.**Target Organs**

Specific Target Organ Toxicity - Single Exposure: Respiratory tract irritation.

**Aspiration Hazard****Product:** No data available.**Other effects:** No data available.**12. Ecological information****Ecotoxicity:****Acute hazards to the aquatic environment:**

**Fish****Product:** No data available.**Specified substance(s):**

Benzene, 1,1'-methylenebis[4-isocyanato-

LC 50 (Danio rerio, 96 h): &gt; 1,000 mg/l Read-across based on grouping of substances (category approach), Key study

Diphenylmethane-2,4'-diisocyanate

LC 50 (Danio rerio, 96 h): &gt; 1,000 mg/l Read-across based on grouping of substances (category approach), Key study

**Aquatic Invertebrates****Product:** No data available.**Chronic hazards to the aquatic environment:****Fish****Product:** No data available.**Aquatic Invertebrates****Product:** No data available.**Specified substance(s):**

Benzene, 1,1'-methylenebis[4-isocyanato-

NOAEL (Daphnia magna): &gt;= 10 mg/l read-across based on grouping of substances (category approach) Read-across based on grouping of substances (category approach), Key study

Diphenylmethane-2,4'-diisocyanate

NOAEL (Daphnia magna): &gt;= 10 mg/l read-across based on grouping of substances (category approach) Read-across based on grouping of substances (category approach), Key study

**Toxicity to Aquatic Plants****Product:** No data available.**Persistence and Degradability****Biodegradation****Product:** No data available.**BOD/COD Ratio****Product:** No data available.**Bioaccumulative potential****Bioconcentration Factor (BCF)****Product:** No data available.**Specified substance(s):**

Benzene, 1,1'-methylenebis[4-isocyanato-

Cyprinus carpio, Bioconcentration Factor (BCF): 200 Aquatic sediment Experimental result, Key study

**Partition Coefficient n-octanol / water (log Kow)**



**Product:** No data available.

**Specified substance(s):**  
Benzene, 1,1'-  
methylenebis[4-  
isocyanato-

Log Kow: 5.22

**Mobility in soil:** No data available.

**Other adverse effects:** No data available.

### 13. Disposal considerations

**Disposal methods:** Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

**Contaminated Packaging:** No data available.

### 14. Transport information

**TDG:**

Not Regulated

**CFR / DOT:**

Not Regulated

**IMDG:**

Not Regulated

**Further Information:**

The above shipping description may not be accurate for all container sizes and all modes of transportation. Please refer to Bill of Lading.

### 15. Regulatory information

**US Federal Regulations**

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

None present or none present in regulated quantities.

**US. Toxic Substances Control Act (TSCA) Section 5(a)(2) Final Significant New Use Rules (SNURs) (40 CFR 721, Subpt E)**

None present or none present in regulated quantities.



**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended**

None present or none present in regulated quantities.

**CERCLA Hazardous Substance List (40 CFR 302.4):**

<u>Chemical Identity</u>	<u>Reportable quantity</u>
Benzene, 1,1'-methylenebis[4-isocyanato-	5000 lbs.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories**

- Immediate (Acute) Health Hazards
- Delayed (Chronic) Health Hazard
- Acute toxicity (any route or exposure)
- Skin Corrosion or Irritation
- Serious eye damage or eye irritation
- Respiratory or Skin Sensitization
- Carcinogenicity
- Specific target organ toxicity (single or repeated exposure)

**US. EPCRA (SARA Title III) Section 304 Extremely Hazardous Substances Reporting Quantities and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substances**

**US. EPCRA (SARA Title III Section 313 Toxic Chemical Release Inventory (TRI) Reporting**

<u>Chemical Identity</u>	<u>% by weight</u>
Benzene, 1,1'-methylenebis[4-isocyanato-	1.0%
Polymeric MDI	1.0%

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

None present or none present in regulated quantities.

**Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)**

None present or none present in regulated quantities.

**US State Regulations**

**US. California Proposition 65**

No ingredient requiring a warning under CA Prop 65.

**International regulations**

**Montreal protocol**

Not applicable

**Stockholm convention**

Not applicable

**Rotterdam convention**

Not applicable



**Kyoto protocol**  
Not applicable

**VOC:** When appropriately mixed with the other part, product has a VOC less water and exempt solvent of:  
> 50 g/l

Regulatory VOC (less water and  
exempt solvent) : 0 g/l

VOC Method 310 : 10.00 %



**Inventory Status:**

Australia AICS:	All components in this product are listed on or exempt from the Inventory.
Canada DSL Inventory List:	All components in this product are listed on or exempt from the Inventory.
EC Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Japan (ENCS) List:	All components in this product are listed on or exempt from the Inventory.
China Inv. Existing Chemical Substances:	All components in this product are listed on or exempt from the Inventory.
Korea Existing Chemicals Inv. (KECI):	All components in this product are listed on or exempt from the Inventory.
Canada NDSL Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Philippines PICCS:	All components in this product are listed on or exempt from the Inventory.
US TSCA Inventory:	All components in this product are listed on or exempt from the Inventory.
New Zealand Inventory of Chemicals:	All components in this product are listed on or exempt from the Inventory.
Japan ISHL Listing:	All components in this product are listed on or exempt from the Inventory.
Japan Pharmacopoeia Listing:	One or more components in this product are not listed on or exempt from the Inventory.
Mexico INSQ:	One or more components in this



product are not listed on or exempt from the Inventory.

Ontario Inventory: One or more components in this product are not listed on or exempt from the Inventory.

Taiwan Chemical Substance Inventory: One or more components in this product are not listed on or exempt from the Inventory.

**16. Other information, including date of preparation or last revision**

**HMIS Hazard ID**

<b>Health</b>	*	2
<b>Flammability</b>		1
<b>Physical Hazards</b>		1
<b>PERSONAL PROTECTION</b>		X

X-It is recommended that PPE codes be determined by the user/employer, who is familiar with the actual conditions under which the product is being used.

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible; \*Chronic health effect

**Revision Date:** 08/17/2023

**Version #:** 2.2

**Further Information:** No data available.

**Disclaimer:** For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.