



## Safety Data Sheet

prepared to UN GHS Revision 3

## 1. Identification of the Substance/Mixture and the Company/Undertaking

- 1.1 Product Identifier 101-FRESH-A-FORMULA Revision Date: 01/27/2015  
 Product Name: Flowfresh Base A Supercedes Date: 05/28/2014
- 1.2 Relevant identified uses of the substance or mixture and uses advised against  
 Base component of 2 components coatings - Industrial use.
- 1.3 Details of the supplier of the safety data sheet
- Manufacturer: Flowcrete North America, Inc.  
 616 Spring Hill Drive, Suite 100  
 Spring, TX 77386  
 americas@flowcrete.com  
 www.flowcreteamericas.com  
 Tel: (936) 539-6700  
 Fax: (936) 539-6701
- Datasheet Produced by: Anderson, Paul - americas@flowcrete.com
- 1.4 Emergency telephone number: CHEMTREC +1 703 5273887 (Outside US)

## 2. Hazard Identification

- 2.1 Classification of the substance or mixture
- 2.3 Other hazards  
 Not applicable
- Results of PBT and vPvB assessment  
 The product does not meet the criteria for PBT/vPvB in accordance with Annex XIII.

## 3. Composition/Information On Ingredients

### 3.1 Substances

#### Hazardous Ingredients

<u>CAS-No.</u>	<u>Chemical Name</u>	<u>%</u>
107-21-1	ethane-1,2-diol	1.0-2.5
64742-95-6	solvent naphtha (petroleum), light arom.	0.1-1.0
111-46-6	2,2' -oxybisethanol	<0.1



## 6.4 Reference to other sections

Please refer to disposal requirements or country specific disposal requirements for this material. See Section 13 for further information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**INSTRUCTIONS FOR SAFE HANDLING:** Use only in area provided with appropriate exhaust ventilation. Wear personal protective equipment

**PROTECTION AND HYGIENE MEASURES:** Wash hands before breaks and at the end of workday. When using, do not eat, drink or smoke.

### 7.2 Conditions for safe storage, including any incompatibilities

**CONDITIONS TO AVOID:** No Information

**STORAGE CONDITIONS:** Do not freeze. Keep containers tightly closed in a dry, cool and well-ventilated place.

### 7.3 Specific end use(s)

No specific advice for end use available.

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

Ingredients with Occupational Exposure Limits (US)

<u>Name</u>	<u>%</u>	<u>OSHA PEL</u>	<u>Company TLV</u>
ethane-1,2-diol	1.0-2.5	50.00 PPM	
solvent naphtha (petroleum), light arom.	0.1-1.0	500.0 PPM	
2,2'-oxybisethanol	<0.1		
diethanolamine	<0.1		

**FURTHER INFORMATION:** Refer to the regulatory exposure limits for the workforce enforced in each country.

### 8.2 Exposure controls

Personal Protection

**RESPIRATORY PROTECTION:** No personal respiratory protective equipment normally required.

**EYE PROTECTION:** Safety glasses.

**HAND PROTECTION:** Protective gloves. Long sleeved clothing. Remove and wash contaminated clothing before re-use.

**OTHER PROTECTIVE EQUIPMENT:** No Information

**ENGINEERING CONTROLS:** Avoid contact with skin, eyes and clothing. Ensure adequate ventilation, especially in confined areas.

## 9. Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

Appearance:	White Resin
Physical State	Liquid
Odor	Light Terpene
Odor threshold	Not determined
pH	9.4
Melting point /freezing point (°C)	0 (like water)

Boiling point/range (°C)	150 - N.D.
Flash Point (°C)	999
Evaporation rate	Like water
Flammability (solid, gas)	Not determined
Upper/lower flammability or explosive limits	0 - 0
Vapour Pressure	Not determined
Vapour density	Not determined
Relative density	approx. 1.0
Solubility in /Miscibility with water	Emulsifiable
Partition coefficient: n-octanol/water	Not determined
Auto-ignition temperature (°C)	N/A
Decomposition temperature (°C)	Not determined
Viscosity	850 mPas at 80F
Explosive properties	N/A
Oxidising properties	N/A
9.2 Other information	
VOC Content g/l:	10
Specific Gravity (g/cm <sup>3</sup> )	0.120

## 10. Stability and Reactivity

### 10.1 Reactivity

No reactivity hazards known under normal storage and use conditions.

### 10.2 Chemical stability

Stable under normal conditions.

### 10.3 Possibility of hazardous reactions

Hazardous polymerisation does not occur.

### 10.4 Conditions to avoid

No Information

### 10.5 Incompatible materials

No Information

### 10.6 Hazardous decomposition products

No Information

## 11. Toxicological Information

### 11.1 Information on toxicological effects

Acute Toxicity:

Oral LD50:

Inhalation LC50:

Irritation: No information available.

Corrosivity: No information available.

Sensitization: No information available.

Repeated dose toxicity: No information available.

Carcinogenicity: No information available.

Mutagenicity: No information available.

Toxicity for reproduction: No information available.

If no information is available above under Acute Toxicity then the acute effects of this product have not been tested.

Data on individual components are tabulated below:

<u>CAS-No.</u>	<u>Chemical Name</u>	<u>Oral LD50</u>	<u>Dermal LD50</u>	<u>Vapor LC50</u>
64742-95-6	solvent naphtha (petroleum), light arom.	4700 mg/kg, oral, rat	>2000 mg/kg	3670 ppm/8 hours, rat, inhalation

Additional Information:

No Information

## 12. Ecological Information

### 12.1 Toxicity:

EC50 48hr (Daphnia): No information

IC50 72hr (Algae): No information

LC50 96hr (fish): No information

12.2 Persistence and degradability: No information

12.3 Bioaccumulative potential: No information

12.4 Mobility in soil: No information

12.5 Results of PBT and vPvB assessment: The product does not meet the criteria for PBT/vPvB in accordance with Annex XIII.

12.6 Other adverse effects: No information

<u>CAS-No.</u>	<u>Chemical Name</u>	<u>EC50 48hr</u>	<u>IC50 72hr</u>	<u>LC50 96hr</u>
107-21-1	ethane-1,2-diol	No information	No information	
64742-95-6	solvent naphtha (petroleum), light arom.	>1 - 10 mg/l	>1 - 10 mg/l	>10-100 mg/l
111-46-6	2,2' -oxybisethanol	No information	No information	
111-42-2	diethanolamine	No information	No information	No information

### 13. Disposal Considerations

13.1 WASTE TREATMENT METHODS: If recycling is not practicable, dispose of in compliance with local regulations. Empty containers should be taken to an approved waste handling site for recycling or disposal.

### 14. Transport Information

- 14.1 UN number
- 14.2 UN proper shipping name Not regulated for transport according to DOT, IMDG, and IATA regulations.  
Technical name
- 14.3 Transport hazard class(es)  
Subsidiary shipping hazard
- 14.4 Packing group
- 14.5 Environmental hazards
- 14.6 Special precautions for user Not applicable  
EmS-No.:
- 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code Not applicable

### 15. Regulatory Information

15.1 Safety, health and environmental regulations/legislation for the substance or mixture:

U.S. Federal Regulations: As follows -

#### CERCLA - Sara Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Chronic Health Hazard

#### Sara Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the U.S. Superfund Amendment and Reauthorization Act (SARA) of 1986 and 40 CFR part 372:

<u>Chemical Name</u>	<u>CAS-No.</u>
ethane-1,2-diol	107-21-1
1,2,4-trimethylbenzene	95-63-6

**Toxic Substances Control Act**

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

No TSCA 12(b) components exist in this product

**U.S. Clean Air Act**

EPA Coating Category:	Floor coatings
EPA VOC Content Limit (g/l):	400
Product VOC Content (g/l)	10
Thinning Recommendations:	None
Application Recommendations:	For professional use only.

\* As per the federal EPA definition for coating categories in 40 CFR 59.401.

\*\* Grams of VOC per liter of coating product as applied (mixture of Part A and Part B) per ASTM D2369 Method E.

**U.S. State Regulations: As follows -****New Jersey Right-to-Know:**

The following materials are non-hazardous, but are among the top five components in this product.

<u>Chemical Name</u>	<u>CAS-No.</u>
castor oil	8001-79-4
water	7732-18-5
No Chemical Name Found	
9-octadecenoic acid, 12-(oxiranylmethoxy)-, 1,2,3-propanetriyl ester, homopolymer	74398-71-3
No Chemical Name Found	94266-48-5

**Pennsylvania Right-To-Know**

The following non-hazardous ingredients are present in the product at greater than 3%.

<u>Chemical Name</u>	<u>CAS-No.</u>
castor oil	8001-79-4
water	7732-18-5
No Chemical Name Found	

**California Proposition 65:**

Warning: The following ingredients present in the product are known to the State of California to cause cancer:

No Proposition 65 Carcinogens exist in this product

Warning: The following ingredients present in the product are known to the State of California to cause birth defects, or other reproductive hazards.

No Proposition 65 Reproductive Toxins exist in this product

**International Regulations: As follows -****\* Canadian DSL:**

All chemical ingredients included on inventory or exempt.

**15.2 Chemical Safety Assessment**

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

## 16. Other Information

Text for GHS Hazard Statements shown in Section 3 describing each ingredient

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H411	Toxic to aquatic life with long lasting effects.

Reasons for revision

This is a new Safety Data Sheet (SDS).

List of References:

This Safety Data Sheet was compiled with data and information from the following sources:

The Ariel Regulatory Database provided by the 3E Corporation in Copenhagen, Denmark  
 ESIS (The European Chemical Substances Information System), provided by the European Commission  
 Joint Research Centre in Ispra, Italy  
 Annex VI of the EU Council Directive 67/548/EEC  
 Council Directive 67/548/EEC - Annex I or EU Council Directive 1999/45/EC  
 European Union (EC) Regulation No. 1272/2008 on the classification, labelling and packaging of  
 substances and mixtures (CLP Regulation)  
 EU Council Decision 2000/532/EC and its Annex entitled "List of Wastes"

Acronym & Abbreviation Key:

CLP	Classification, Labeling & Packaging Regulation
EC	European Commission
EU	European Union
US	United States
CAS	Chemical Abstract Service
EINECS	European Inventory of Existing Chemical Substances
REACH	Registration, Evaluation, Authorization of Chemicals Regulation
GHS	Globally Harmonized System of Classification and Labeling of Chemicals
LTEL	Long term exposure limit
STEL	Short term exposure limit
OEL	Occupational exposure limit
ppm	Parts per million
mg/m3	Milligrams per cubic meter
TLV	Threshold Limit Value
ACGIH	American Conference of Governmental Industrial Hygienists
OSHA	Occupational Safety & Health Administration
PEL	Permissible Exposure Limits
VOC	Volatile organic compounds
g/l	Grams per liter
mg/kg	Milligrams per kilogram
N/A	Not applicable
LD50	Lethal dose at 50%
LC50	Lethal concentration at 50%
EC50	Half maximal effective concentration
IC50	Half maximal inhibitory concentration
PBT	Persistent bioaccumulative toxic chemical
vPvB	Very persistent and very bioaccumulative
EEC	European Economic Community
ADR	International Transport of Dangerous Goods by Road
RID	International Transport of Dangerous Goods by Rail
UN	United Nations
IMDG	International Maritime Dangerous Goods Code
IATA	International Air Transport Association



MARPOL International Convention for the Prevention of Pollution From Ships, 1973 as  
modified by the Protocol of 1978  
IBC International Bulk Container

For further information, please contact: Technical Services Department

The information on this sheet corresponds to our present knowledge. It is not a specification and it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage, and use of the product. It is not applicable to unusual or non-standard uses of the product or where instructions and recommendations are not followed.

No Information





## Safety Data Sheet

### prepared to UN GHS Revision 3

#### 1. Identification of the Substance/Mixture and the Company/Undertaking

<b>1.1 Product Identifier</b>	101-FRESH-B-SINGLE	<b>Revision Date:</b>	05/28/2014
<b>Product Name:</b>	Flowfresh Hardener B - Flowfresh CM Hardener B	<b>Supersedes Date:</b>	01/30/2014
<b>1.2 Relevant identified uses of the substance or mixture and uses advised against</b>	Component of multicomponent industrial coatings - Industrial use		
<b>1.3 Details of the supplier of the safety data sheet</b>	<p><b>Manufacturer:</b> Flowcrete North America, Inc. 616 Spring Hill Drive, Suite 100 Spring, TX 77386 americas@flowcrete.com www.flowcreteamericas.com Tel: (936) 539-6700 Fax: (936) 539-6701</p>		
<b>Datasheet Produced by:</b>	Adamson, Grant - americas@flowcrete.com		
<b>1.4 Emergency telephone number:</b>	CHEMTREC +1 703 5273887 (Outside US)		

#### 2. Hazard Identification

##### 2.1 Classification of the substance or mixture

Carcinogenicity, category 2  
 Eye Irritation, category 2  
 Respiratory Sensitizer, category 1  
 STOT, repeated exposure, category 2  
 STOT, single exposure, category 3, RTI  
 Skin Irritation, category 2  
 Skin Sensitizer, category 1

## 2.2 Label elements

### Symbol(s) of Product



### Signal Word

Danger

### Named Chemicals on Label

4,4'-methylenediphenyl diisocyanate

### HAZARD STATEMENTS

Carcinogenicity, category 2	H351	Suspected of causing cancer.
Eye Irritation, category 2	H319	Causes serious eye irritation.
Respiratory Sensitizer, category 1	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
STOT, repeated exposure, category 2	H373	May cause damage to organs through prolonged or repeated exposure.
STOT, single exposure, category 3, RTI	H335	May cause respiratory irritation.
Skin Irritation, category 2	H315	Causes skin irritation.
Skin Sensitizer, category 1	H317	May cause an allergic skin reaction.

### PRECAUTION PHRASES

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P281	Use personal protective equipment as required.
P285	In case of inadequate ventilation wear respiratory protection.
P304	IF INHALED:
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
P308+313	IF exposed or concerned: Get medical advice/attention
P314	Get medical advice/attention if you feel unwell.
P332+313	If skin irritation occurs: Get medical advice/attention.
P341	If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P342+311	If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

### 2.3 Other hazards

Not applicable

#### Results of PBT and vPvB assessment:

The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.

## 3. Composition/Information On Ingredients

### 3.1 Substances

#### Hazardous Ingredients

<u>CAS-No.</u>	<u>Chemical Name</u>	<u>%</u>
101-68-8	4,4'-methylenediphenyl diisocyanate	25-50

<u>CAS-No.</u>	<u>GHS Symbols</u>	<u>GHS Hazard Statements</u>	<u>M-Factors</u>
101-68-8	GHS07-GHS08	H315-317-319-332-334-335-351-373	0

**Additional Information:** The text for GHS Hazard Statements shown above (if any) is given in Section 16.

## 4. First-aid Measures

### 4.1 Description of First Aid Measures

**AFTER INHALATION:** Move to fresh air. Consult a physician after significant exposure.

**AFTER SKIN CONTACT:** Use a mild soap if available. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

**AFTER EYE CONTACT:** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses.

**AFTER INGESTION:** Do NOT induce vomiting. Never give anything by mouth to an unconscious person.

### 4.2 Most important symptoms and effects, both acute and delayed

Harmful by inhalation, in contact with skin and if swallowed. Irritating to eyes and respiratory system. Heating or fire can release toxic gas.

### 4.3 Indication of any immediate medical attention and special treatment needed

No information available on clinical testing and medical monitoring. Specific toxicological information on substances, if available, can be found in section 11.

## 5. Fire-fighting Measures

### 5.1 Extinguishing Media:

Carbon Dioxide, Dry Chemical, Foam

**FOR SAFETY REASONS NOT TO BE USED:** Alcohol, Alcohol based solutions, any other media not listed above.

### 5.2 Special hazards arising from the substance or mixture

No Information

### 5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. ABC powder. Danger! - water reactive substance. Reacts with water to release toxic gas. May be harmful or fatal if inhaled.

## 6. Accidental Release Measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment.

### 6.2 Environmental precautions

Do not allow material to contaminate ground water system. Prevent product from entering drains. Keep the container open.

### 6.3 Methods and material for containment and cleaning up

Prevent further leakage or spillage if safe to do so. Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

### 6.4 Reference to other sections

Please refer to disposal requirements or country specific disposal requirements for this material. See Section 13 for further information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**INSTRUCTIONS FOR SAFE HANDLING:** Use only in area provided with appropriate exhaust ventilation. Provide sufficient

air exchange and/or exhaust in work rooms. Wear personal protective equipment. Do not breathe vapours or spray mist. Persons with a history of skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this preparation is being used.

**PROTECTION AND HYGIENE MEASURES:** Wash hands before breaks and at the end of workday. When using, do not eat, drink or smoke.

## 7.2 Conditions for safe storage, including any incompatibilities

**CONDITIONS TO AVOID:** Keep from any possible contact with water.

**STORAGE CONDITIONS:** Store in original container. Keep container tightly closed in a dry and well-ventilated place. Keep locked up or in an area accessible only to qualified or authorised persons.

## 7.3 Specific end use(s)

No specific advice for end use available.

# 8. Exposure Controls/Personal Protection

## 8.1 Control parameters

### Ingredients with Occupational Exposure Limits (US)

<u>Name</u>	<u>%</u>	<u>OSHAPEL</u>	<u>Company TLV</u>
4,4'-methylenediphenyl diisocyanate	25-50	0.02 PPM- CEILIN	

**FURTHER INFORMATION:** Refer to the regulatory exposure limits for the workforce enforced in each country.

## 8.2 Exposure controls

### Personal Protection

**RESPIRATORY PROTECTION:** When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Respirator with a vapor filter.

**EYE PROTECTION:** Ensure that eyewash stations and safety showers are close to the workstation location. Tightly fitting safety goggles.

**HAND PROTECTION:** Nitrile rubber. Long sleeved clothing. Remove and wash contaminated clothing before re-use.

**OTHER PROTECTIVE EQUIPMENT:** No Information

# 9. Physical and Chemical Properties

## 9.1 Information on basic physical and chemical properties

<b>Appearance:</b>	Brown Liquid
<b>Physical State</b>	Liquid
<b>Odor</b>	Earthy, Musty
<b>Odor threshold</b>	Not determined
<b>pH</b>	Not determined
<b>Melting point / freezing point (°C)</b>	Not determined
<b>Boiling point/range (°C)</b>	550 F - N.D.
<b>Flash Point, (°C)</b>	177
<b>Evaporation rate</b>	Not determined
<b>Flammability (solid, gas)</b>	Not determined
<b>Upper/lower flammability or explosive limits</b>	999 - 0

<b>Vapour Pressure, mmHg</b>	<0.0001 mbar @ 70oF
<b>Vapour density</b>	8.5
<b>Relative density</b>	1.24 @ 70 F
<b>Solubility in / Miscibility with water</b>	Insoluble, Reacts To Produce Carbon Dioxide And Polyurea Solid
<b>Partition coefficient: n-octanol/water</b>	Not determined
<b>Auto-ignition temperature (°C)</b>	>1110 F
<b>Decomposition temperature (°C)</b>	> 550 F
<b>Viscosity</b>	45-95 mPas at 80oF
<b>Explosive properties</b>	Not determined
<b>Oxidising properties</b>	Not determined

## 9.2 Other information

<b>VOC Content g/l:</b>	10
<b>Specific Gravity (g/cm3)</b>	0.120

# 10. Stability and Reactivity

## 10.1 Reactivity

No reactivity hazards known under normal storage and use conditions.

## 10.2 Chemical stability

Container can be pressurized by carbon dioxide due to reaction with humid air and/or water. Stable under normal conditions.

## 10.3 Possibility of hazardous reactions

Hazardous polymerisation does not occur.

## 10.4 Conditions to avoid

Keep from any possible contact with water.

## 10.5 Incompatible materials

Reacts violently in contact with acids, amines, driers, polymerisation accelerators and easily oxidized materials. Contact with water or moist air liberates irritating gas.

## 10.6 Hazardous decomposition products

Carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO), oxides of nitrogen (NO<sub>x</sub>), dense black smoke.

## 11. Toxicological Information

### 11.1 Information on toxicological effects

#### Acute Toxicity:

**Oral LD50:** >5000 mg/kg, oral (rat)  
**Inhalation LC50:** 490 mg/m<sup>3</sup> (aerosol), 4 hrs.

#### Irritation:

Over exposure, especially when spraying without the necessary precautions, entails the risk of concentration dependent irritating effects on eyes, nose, throat, and respiratory tract. Prolonged contact with the skin may cause tanning and irritant effects.

#### Corrosivity:

No information available.

#### Sensitization:

Repeated and/or prolonged exposure especially at levels above the OEL, may cause an allergic reaction/respiratory or skin sensitization.

#### Repeated dose toxicity:

No information available.

#### Carcinogenicity:

The classification for diphenylmethane diisocyanate has changed to carcinogenic, category 3 when it is in the form of respirable aerosol, e.g. when sprayed.

#### Mutagenicity:

No information available.

#### Toxicity for reproduction:

No birth defects seen in animal (rat) studies. Fetotoxicity was observed at doses that were extremely toxic (including lethal) to the mother. Fetotoxicity was not observed at doses that were not maternally toxic.

**If no information is available above under Acute Toxicity then the acute effects of this product have not been tested.  
 Data on individual components are tabulated below:**

<u>CAS-No.</u>	<u>Chemical Name</u>	<u>Oral LD50</u>	<u>Dermal LD50</u>	<u>Vapor LC50</u>
101-68-8	4,4'-methylenediphenyl diisocyanate	15000 mg/kg oral		43 ppm vapor 4 hrs

#### Additional Information:

Persons allergic to isocyanates, and particularly those suffering from asthma or other respiratory conditions, should not work with isocyanates.

## 12. Ecological Information

### 12.1 Toxicity:

**EC50 48hr (Daphnia):** >1000 mg/l  
**IC50 72hr (Algae):** No information  
**LC50 96hr (fish):** No information

### 12.2 Persistence and degradability:

The polyurea produced on contact with water is insoluble, inert, and non-biodegradable. In air, the predominant degradation process is predicted to be a relatively rapid OH radical attack, by calculation and by analogy with related isocyanates.



- 12.3 Bioaccumulative potential:** Not expected to be bioaccumulative.
- 12.4 Mobility in soil:** Reacts with water to produce carbon dioxide and polyurea solid.
- 12.5 Results of PBT and vPvB assessment:** The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.
- 12.6 Other adverse effects:** It is unlikely that significant environmental exposure in the air or water will arise from normal application of this product.

<u>CAS-No.</u>	<u>Chemical Name</u>	<u>EC50 48hr</u>	<u>IC50 72hr</u>	<u>LC50 96hr</u>
101-68-8	4,4'-methylenediphenyl diisocyanate	>1000 mg/l	No information	>1000 mg/l

### 13. Disposal Considerations

- 13.1 WASTE TREATMENT METHODS:** If recycling is not practicable, dispose of in compliance with local regulations. Empty containers should be taken to an approved waste handling site for recycling or disposal.

### 14. Transport Information

- 14.1 UN number**
- 14.2 UN proper shipping name** Not regulated for transport according to ADR/RID, IMDG and IATA regulations
- Technical name**
- 14.3 Transport hazard class(es)** N/A
- Subsidiary shipping hazard** N/A
- 14.4 Packing group**
- 14.5 Environmental hazards**
- 14.6 Special precautions for user** Not applicable
- EmS-No.:**
- 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code** Not applicable

### 15. Regulatory Information

- 15.1 Safety, health and environmental regulations/legislation for the substance or mixture:**

#### U.S. Federal Regulations: As follows -

##### CERCLA - Sara Hazard Category

This product has been reviewed according to the EPA ' Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Reactive Hazard, Chronic Health Hazard

##### Sara Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

<u>Chemical Name</u>	<u>CAS-No.</u>
isocyanic acid, polymethylenepolyphenylene ester	9016-87-9
4,4'-methylenediphenyl diisocyanate	101-68-8

**Toxic Substances Control Act:**

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

No TSCA components exist in this product.

**U.S. Clean Air Act:**

EPA Coating Category:	Floor Coatings
EPA VOC Content Limit (g/l):	400
Product VOC Content (g/l)	<10
Thinning Recommendations:	None
Application Recommendations:	For professional use only.

\* As per the federal EPA definition for coating categories in 40 CFR 59.401.

\*\* Grams of VOC per liter of coating product as applied (mixture of Part A and Part B) per ASTM D2369 Method E.

**U.S. State Regulations: As follows -****New Jersey Right-to-Know:**

The following materials are non-hazardous, but are among the top five components in this product.

No NJ Right-To-Know components exist in this product.

**Pennsylvania Right-To-Know**

The following non-hazardous ingredients are present in the product at greater than 3%.

No PA Right-To-Know components exist in this product.

**California Proposition 65:**

Warning: The following ingredients present in the product are known to the state of California to cause Cancer:

No Proposition 65 Carcinogens exist in this product.

Warning: The following ingredients present in the product are known to the state of California to cause birth defects, or other reproductive hazards.

No Proposition 65 Reproductive Toxins exist in this product.

**International Regulations: As follows -****\* Canadian DSL:**

All chemical ingredients included on inventory

**15.2 Chemical Safety Assessment:**

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

**16. Other Information**

Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

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.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.

### Reasons for revision

This is a new Safety Data Sheet (SDS).

### List of References:

This Safety Data Sheet was compiled with data and information from the following sources:

The Ariel Regulatory Database provided by the 3E Corporation in Copenhagen, Denmark  
 ESIS (The European Chemical Substances Information System), provided by the European Commission  
 Joint Research Centre in Ispra, Italy  
 Annex VI of the EU Council Directive 67/548/EEC  
 Council Directive 67/548/EEC - Annex I or EU Council Directive 1999/45/EC  
 European Union (EC) Regulation No. 1272/2008 on the classification, labelling and packaging of  
 substances and mixtures (CLP Regulation)  
 EU Council Decision 2000/532/EC and its Annex entitled "List of Wastes"

### Acronym & Abbreviation Key:

CLP	Classification, Labeling & Packaging Regulation
EC	European Commission
EU	European Union
US	United States
CAS	Chemical Abstract Service
EINECS	European Inventory of Existing Chemical Substances
REACH	Registration, Evaluation, Authorization of Chemicals Regulation
GHS	Globally Harmonized System of Classification and Labeling of Chemicals
LTEL	Long term exposure limit
STEL	Short term exposure limit
OEL	Occupational exposure limit
ppm	Parts per million
mg/m <sup>3</sup>	Milligrams per cubic meter
TLV	Threshold Limit Value
ACGIH	American Conference of Governmental Industrial Hygienists
OSHA	Occupational Safety & Health Administration
PEL	Permissible Exposure Limits
VOC	Volatile organic compounds
g/l	Grams per liter
mg/kg	Milligrams per kilogram
N/A	Not applicable
LD50	Lethal dose at 50%
LC50	Lethal concentration at 50%
EC50	Half maximal effective concentration
IC50	Half maximal inhibitory concentration
PBT	Persistent bioaccumulative toxic chemical
vPvB	Very persistent and very bioaccumulative
EEC	European Economic Community
ADR	International Transport of Dangerous Goods by Road
RID	International Transport of Dangerous Goods by Rail
UN	United Nations
IMDG	International Maritime Dangerous Goods Code
IATA	International Air Transport Association
MARPOL	International Convention for the Prevention of Pollution From Ships, 1973 as

IBC modified by the Protocol of 1978  
International Bulk Container

For further information, please contact: Technical Services Department

The information on this sheet corresponds to our present knowledge. It is not a specification and it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage, and use of the product. It is not applicable to unusual or non-standard uses of the product or where instructions and recommendations are not followed.



**Safety Data Sheet**  
**prepared to UN GHS Revision 3**

## 1. Identification of the Substance/Mixture and the Company/Undertaking

<b>1.1 Product Identifier</b>	100-HF-C	<b>Revision Date:</b>	06/20/2014
<b>Product Name:</b>	Flowfresh HF Filler C	<b>Supersedes Date:</b>	New SDS
<b>1.2 Relevant identified uses of the substance or mixture and uses advised against</b>	Component of multicomponent industrial coatings - Industrial use		
<b>1.3 Details of the supplier of the safety data sheet</b>			
<b>Manufacturer:</b>	Flowcrete North America, Inc. 616 Spring Hill Drive, Suite 100 Spring, TX 77386 americas@flowcrete.com www.flowcreteamericas.com Tel: (936) 539-6700 Fax: (936) 539-6701		
<b>Datasheet Produced by:</b>	Adamson, Grant - americas@flowcrete.com		
<b>1.4 Emergency telephone number:</b>	CHEMTREC +1 703 5273887 (Outside US)		

## 2. Hazard Identification

### 2.1 Classification of the substance or mixture

Carcinogenicity, category 1A  
Serious Eye Damage, category 1  
STOT, repeated exposure, category 1  
STOT, single exposure, category 1  
Skin Irritation, category 2

## 2.2 Label elements

### Symbol(s) of Product



### Signal Word

Danger

### Named Chemicals on Label

calcium hydroxide, quartz (silicon dioxide)

### HAZARD STATEMENTS

Carcinogenicity, category 1A	H350-1A	May cause cancer.
Serious Eye Damage, category 1	H318	Causes serious eye damage.
STOT, repeated exposure, category 1	H372	Causes damage to organs through prolonged or repeated exposure.
STOT, single exposure, category 1	H370	Causes damage to organs.
Skin Irritation, category 2	H315	Causes skin irritation.

### PRECAUTION PHRASES

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P281	Use personal protective equipment as required.
P301+310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
P307+P311	IF exposed, call a POISON CENTER or doctor/physician.
P308+313	IF exposed or concerned: Get medical advice/attention
P314	Get medical advice/attention if you feel unwell.
P332+313	If skin irritation occurs: Get medical advice/attention.

### 2.3 Other hazards

Not applicable

#### Results of PBT and vPvB assessment:

The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.

## 3. Composition/Information On Ingredients

### 3.1 Substances

#### Hazardous Ingredients

<u>CAS-No.</u>	<u>Chemical Name</u>	<u>%</u>
14808-60-7	quartz (silicon dioxide)	25-50
1305-62-0	calcium hydroxide	10-25

<u>CAS-No.</u>	<u>GHS Symbols</u>	<u>GHS Hazard Statements</u>	<u>M-Factors</u>
14808-60-7	GHS08	H350-370-372	0
1305-62-0	GHS05	H315-318	0

**Additional Information:** The text for GHS Hazard Statements shown above (if any) is given in Section 16.

## 4. First-aid Measures

### 4.1 Description of First Aid Measures

**AFTER INHALATION:** Move to fresh air. Consult a physician after significant exposure.

**AFTER SKIN CONTACT:** Use a mild soap if available. Wash off with soap and plenty of water.

**AFTER EYE CONTACT:** Rinse thoroughly with plenty of water, also under the eyelids. Remove contact lenses. If eye irritation persists, consult a specialist.

**AFTER INGESTION:** Gently wipe or rinse the inside of the mouth with water. Give small amounts of water to drink. Never give anything by mouth to an unconscious person.

### 4.2 Most important symptoms and effects, both acute and delayed

Harmful by inhalation.

### 4.3 Indication of any immediate medical attention and special treatment needed

No information available on clinical testing and medical monitoring. Specific toxicological information on substances, if available, can be found in section 11.

## 5. Fire-fighting Measures

### 5.1 Extinguishing Media:

Carbon Dioxide, Dry Chemical, Foam, Water Fog

**FOR SAFETY REASONS NOT TO BE USED:** Alcohol, Alcohol based solutions, any other media not listed above.

### 5.2 Special hazards arising from the substance or mixture

No Information

### 5.3 Advice for firefighters

None known. The product itself does not burn. In the event of fire, wear self-contained breathing apparatus. Water spray/Dry powder/Alcohol-resistant foam/Carbon dioxide (CO<sub>2</sub>)/High volume water jet. None.

## 6. Accidental Release Measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Avoid dust formation. Use personal protective equipment.

### 6.2 Environmental precautions

No Information

### 6.3 Methods and material for containment and cleaning up

Pick up and transfer to properly labelled containers. No special environmental precautions required. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

Please refer to disposal requirements or country specific disposal requirements for this material. See Section 13 for further information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

**INSTRUCTIONS FOR SAFE HANDLING:** Use only in area provided with appropriate exhaust ventilation. Provide sufficient

air exchange and/or exhaust in work rooms. Wear personal protective equipment. Avoid dust formation. Protect from moisture.

**PROTECTION AND HYGIENE MEASURES:** Wash hands before breaks and at the end of workday. Do not breathe dust. When using, do not eat, drink or smoke.

## 7.2 Conditions for safe storage, including any incompatibilities

**CONDITIONS TO AVOID:** No Information

**STORAGE CONDITIONS:** Keep tightly closed in a dry and cool place.

## 7.3 Specific end use(s)

No specific advice for end use available.

# 8. Exposure Controls/Personal Protection

## 8.1 Control parameters

### Ingredients with Occupational Exposure Limits (US)

<u>Name</u>	<u>%</u>	<u>OSHAPEL</u>	<u>Company TLV</u>
quartz (silicon dioxide)	25-50	0.1 MG/M3	
calcium hydroxide	10-25	5. MG/M3	

**FURTHER INFORMATION:** Refer to the regulatory exposure limits for the workforce enforced in each country.

## 8.2 Exposure controls

### Personal Protection

**RESPIRATORY PROTECTION:** Effective dust mask.

**EYE PROTECTION:** Safety glasses with side-shields

**HAND PROTECTION:** Protective gloves Long sleeved clothing. Remove and wash contaminated clothing before re-use.

**OTHER PROTECTIVE EQUIPMENT:** No Information

# 9. Physical and Chemical Properties

## 9.1 Information on basic physical and chemical properties

<b>Appearance:</b>	Granules / Powder Mix
<b>Physical State</b>	Solid
<b>Odor</b>	None
<b>Odor threshold</b>	Not determined
<b>pH</b>	11- 14
<b>Melting point / freezing point (°C)</b>	Not determined
<b>Boiling point/range (°C)</b>	N.D. - N.D.
<b>Flash Point, (°C)</b>	999
<b>Evaporation rate</b>	N/A
<b>Flammability (solid, gas)</b>	Not determined
<b>Upper/lower flammability or explosive limits</b>	999 - 0
<b>Vapour Pressure, mmHg</b>	N/A
<b>Vapour density</b>	N/A



<b>Relative density</b>	Not determined
<b>Solubility in / Miscibility with water</b>	Slight
<b>Partition coefficient: n-octanol/water</b>	Not determined
<b>Auto-ignition temperature (°C)</b>	Not determined
<b>Decomposition temperature (°C)</b>	Not determined
<b>Viscosity</b>	N/A
<b>Explosive properties</b>	N/A
<b>Oxidising properties</b>	N/A

## 9.2 Other information

<b>VOC Content g/l:</b>	0
<b>Specific Gravity (g/cm<sup>3</sup>)</b>	0.120

# 10. Stability and Reactivity

## 10.1 Reactivity

No reactivity hazards known under normal storage and use conditions.

## 10.2 Chemical stability

Stable under normal conditions.

## 10.3 Possibility of hazardous reactions

Hazardous polymerisation does not occur.

## 10.4 Conditions to avoid

No Information

## 10.5 Incompatible materials

Do not store near acids. Strong oxidizing agents.

## 10.6 Hazardous decomposition products

No hazardous decomposition products are known. Hydrogen fluoride

## 11. Toxicological Information

### 11.1 Information on toxicological effects

**Acute Toxicity:**

**Oral LD50:**

**Inhalation LC50:**

**Irritation:** Cement and hydrated lime powder, especially in a water mix, may cause irritant contact dermatitis and/or burns.

**Corrosivity:** No information available.

**Sensitization:** No information available.

**Repeated dose toxicity:** No information available.

**Carcinogenicity:** No information available.

**Mutagenicity:** No information available.

**Toxicity for reproduction:** No information available.

**If no information is available above under Acute Toxicity then the acute effects of this product have not been tested.**

**Data on individual components are tabulated below:**

<u>CAS-No.</u>	<u>Chemical Name</u>	<u>Oral LD50</u>	<u>Dermal LD50</u>	<u>Vapor LC50</u>
1305-62-0	calcium hydroxide	7340 mg/kr, oral, rat		

**Additional Information:**

This product may contain Quartz (silicon dioxide), which is listed by IARC as a known carcinogenic to humans (Group 1). This classification is relevant when exposed to Quartz (silicon dioxide) in dust or powder form only, including cured product that is subject to sanding, grinding, cutting, or other surface preparation activities.

## 12. Ecological Information

### 12.1 Toxicity:

**EC50 48hr (Daphnia):** No information

**IC50 72hr (Algae):** No information

**LC50 96hr (fish):** No information

**12.2 Persistence and degradability:** Mostly non-biodegradable. The hydrated lime will react with atmospheric and dissolved carbon dioxide to form calcium carbonate (e.g. chalk).

**12.3 Bioaccumulative potential:** Not applicable.

**12.4 Mobility in soil:** The product is not volatile and insoluble in water, will accumulate in the ground.

**12.5 Results of PBT and vPvB assessment:** The product does not meet the criteria for PBT/vPvB in accordance with Annex XIII.

**12.6 Other adverse effects:**

The addition of cement and hydrated lime to water will raise pH and may therefore be toxic to aquatic life in some circumstances.

<u>CAS-No.</u>	<u>Chemical Name</u>	<u>EC50 48hr</u>	<u>IC50 72hr</u>	<u>LC50 96hr</u>
14808-60-7	quartz (silicon dioxide)	No information	No information	
1305-62-0	calcium hydroxide	No information	No information	

### 13. Disposal Considerations

**13.1 WASTE TREATMENT METHODS:** If recycling is not practicable, dispose of in compliance with local regulations. Empty containers should be taken to an approved waste handling site for recycling or disposal.

### 14. Transport Information

**14.1 UN number**

**14.2 UN proper shipping name**

Not regulated for transport according to ADR/RID, IMDG and IATA regulations

Technical name

**14.3 Transport hazard class(es)**

N/A

Subsidiary shipping hazard

**14.4 Packing group**

**14.5 Environmental hazards**

**14.6 Special precautions for user**

Not applicable

EmS-No.:

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code**

Not applicable

### 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation for the substance or mixture:**

#### U.S. Federal Regulations: As follows -

##### CERCLA - Sara Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Chronic Health Hazard

##### Sara Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

No Sara 313 components exist in this product.

##### Toxic Substances Control Act:

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

No TSCA components exist in this product.

**U.S. Clean Air Act:**

EPA Coating Category: Not applicable  
 EPA VOC Content Limit (g/l): N/A  
 Product VOC Content (g/l) N/A  
 Thinning Recommendations: N/A  
 Application Recommendations: N/A

\* As per the federal EPA definition for coating categories in 40 CFR 59.401.

\*\* Grams of VOC per liter of coating product as applied (mixture of Part A and Part B) per ASTM D2369 Method E.

**U.S. State Regulations: As follows -****New Jersey Right-to-Know:**

The following materials are non-hazardous, but are among the top five components in this product.

<u>Chemical Name</u>	<u>CAS-No.</u>
No Chemical Name Found	
No Chemical Name Found	68475-76-3

**Pennsylvania Right-To-Know**

The following non-hazardous ingredients are present in the product at greater than 3%.

<u>Chemical Name</u>	<u>CAS-No.</u>
No Chemical Name Found	
No Chemical Name Found	68475-76-3

**California Proposition 65:**

Warning: The following ingredients present in the product are known to the state of California to cause Cancer:

<u>Chemical Name</u>	<u>CAS-No.</u>
quartz (silicon dioxide)	14808-60-7

Warning: The following ingredients present in the product are known to the state of California to cause birth defects, or other reproductive hazards.

No Proposition 65 Reproductive Toxins exist in this product.

**International Regulations: As follows -****\* Canadian DSL:**

All chemical ingredients included on inventory

**15.2 Chemical Safety Assessment:**

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

**16. Other Information**

Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

H315	Causes skin irritation.
H318	Causes serious eye damage.
H350	May cause cancer.
H370	Causes damage to organs.
H372	Causes damage to organs through prolonged or repeated exposure.

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