



## 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>	F01-214-FSL-B-STLGRY-2.021	<b>Revision Date:</b>	07/04/2017
<b>Product Name:</b>	Flowshield SL - Hardener B	<b>Supersedes Date:</b>	New SDS
<b>1.2 Relevant identified uses of the substance or mixture and uses advised against</b>	No Information		
<b>1.3 Details of the supplier of the safety data sheet</b>			
<b>Importer:</b>	Flowcrete Australia Pty Ltd Unit 2, 41 Deakin Street Brendale Queensland 4500 Australia Phone: +61 7 3205 7115 Fax: +61 7 3205 3116 australia@flowcrete.com www.flowcreteaustralia.com.au		
<b>Datasheet Produced by:</b>	Hadadek, Mohd - malaysia@flowcrete.com		
<b>1.4 Emergency telephone number:</b>	CHEMTREC 1-800-424-9300 (Inside US) CHEMTREC +1 703 5273887 (Outside US)		

### 2. Hazard Identification

#### 2.1 Classification of the substance or mixture

Hazardous to the aquatic environment, Acute, category 1  
 Hazardous to the aquatic environment, Chronic, category 1  
 Reproductive Toxicity, category 2  
 Skin Corrosion, category 1

#### 2.2 Label elements

##### Symbol(s) of Product



##### Signal Word

Danger

##### Named Chemicals on Label

Nonylphenol

**HAZARD STATEMENTS**

Skin Corrosion, category 1	H314-1	Causes severe skin burns and eye damage.
Reproductive Toxicity, category 2	H361	Suspected of damaging fertility or the unborn child.
Hazardous to the aquatic environment, Acute, category 1	H400	Very toxic to aquatic life.
Hazardous to the aquatic environment, Chronic, category 1	H410	Very toxic to aquatic life with long lasting effects.

**PRECAUTION PHRASES**

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	Wear respiratory protection.
P303+361+353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
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+P313	IF exposed or concerned: Get medical advice/attention
P391	Collect spillage.

**2.3 Other hazards**

No Information

**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****3.2 Mixtures****Hazardous Ingredients**

<u>CAS-No.</u>	<u>Chemical Name</u>	<u>%</u>
25154-52-3	Nonylphenol	25-50
9046-10-0	polyoxypropylenediamine	25-50
90-72-2	2,4,6-tris(dimethylaminomethyl)phenol	2.5-10
71074-89-0	bis (dimethylaminomethyl) phenol	1.0-2.5

<u>CAS-No.</u>	<u>GHS Symbols</u>	<u>GHS Hazard Statements</u>	<u>M-Factors</u>
25154-52-3	GHS05-GHS07-GHS08-GHS09	H302-314-361-400-410	0
9046-10-0	GHS05-GHS09	H314-411	0
90-72-2	GHS07	H315-319	0
71074-89-0	GHS05	H314	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****GENERAL NOTES:** Show this safety data sheet to the doctor in attendance.**AFTER INHALATION:** Move to fresh air. Provide fresh air, rest and warmth. Call a physician immediately. Give oxygen or artificial respiration if needed. When risk of unconsciousness, place and transport the victim in secured recovery position.**AFTER SKIN CONTACT:** Use a mild soap if available. Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a physician. Do not use solvent or thinners to clean skin.**AFTER EYE CONTACT:** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Consult a physician.**AFTER INGESTION:** If vomiting occurs spontaneously: Keep head below hips to prevent aspiration of stomach vomit into lungs. Provide fresh air, rest and warmth. Do not induce vomiting. Get immediate medical attention. Never give anything by mouth to an unconscious person.

**Self protection of the first aider:**

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

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

Causes burns. Irritating to skin. May cause sensitization by skin contact. Harmful by inhalation and if swallowed. Causes serious eye damage.

**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. When symptoms persist or in all cases of doubt seek medical advice.

**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. Do not use a solid water stream as it may scatter and spread fire.

**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. Hazardous decomposition products formed under fire conditions. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Keep containers and surroundings cool with water spray.

**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. Local authorities should be advised if significant spillages cannot be contained.

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

Do not let product enter drains. 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). Clean with detergents. Avoid solvents.

**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. Open drum carefully as content may be under pressure. 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. Apply technical measures to comply with the occupational exposure limits (see section 8).

**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:** Avoid heat, sparks, flames and other ignition sources.

**STORAGE CONDITIONS:** Store in original container. Keep locked up or in an area accessible only to qualified or authorised persons. Keep container closed. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight.

Store away from: oxidising materials, acids, and alkalis. Store in upright position only. Storage of corrosive material.

### 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 (AU)

<u>Name</u>	<u>CAS-No.</u>	<u>TWA ppm</u>	<u>STEL ppm</u>	<u>TWA mg/m3</u>	<u>STEL mg/m3</u>
Nonylphenol	25154-52-3				
polyoxypropylenediamine	9046-10-0				
2,4,6-tris(dimethylaminomethyl)phenol	90-72-2				
bis (dimethylaminomethyl) phenol	71074-89-0				

<u>Name</u>	<u>CAS-No.</u>	<u>OEL Note</u>
Nonylphenol	25154-52-3	
polyoxypropylenediamine	9046-10-0	
2,4,6-tris(dimethylaminomethyl)phenol	90-72-2	
bis (dimethylaminomethyl) phenol	71074-89-0	

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

### 8.2 Exposure controls

#### Personal Protection

**RESPIRATORY PROTECTION:** Wear respiratory protection with combination filter (dust and gas filter, EN 141) during spraying operations: Gas filter type A1 (organic substances). Dust filter P3 (for fine dust).

**EYE PROTECTION:** If splashes are likely to occur, wear: Face-shield, tightly fitting safety goggles.

**HAND PROTECTION:** Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact). Be aware that in daily use the durability of a chemical resistant protective glove can be notably shorter than the break through time measured according to EN 374, due to the numerous outside influences (e.g. temperature). Long sleeved clothing. Remove and wash contaminated clothing before re-use. Use chemical resistant gloves (EN 374): Butyl rubber. Use chemical resistant gloves and lotions and barrier creams to prevent drying of the skin. Protective gloves complying with EN 374: Butyl rubber. Nitril rubber. Recommended glove material for mixed product: Protective gloves complying with EN 374: Butyl rubber. Nitril rubber.

**OTHER PROTECTIVE EQUIPMENT:** Ensure that eyewash stations and safety showers are close to the workstation location.

**ENGINEERING CONTROLS:** Ensure adequate ventilation, especially in confined areas.

## 9. Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

<b>Appearance:</b>	Pale yellow liquid
<b>Physical State</b>	Liquid
<b>Odor</b>	Not determined
<b>Odor threshold</b>	Not determined
<b>pH</b>	Alkaline
<b>Melting point / freezing point (°C)</b>	Not determined
<b>Boiling point/range (°C)</b>	N.D. - N.D.

<b>Flash Point, (°C)</b>	100
<b>Evaporation rate</b>	Not determined
<b>Flammability (solid, gas)</b>	Not determined
<b>Upper/lower flammability or explosive limits</b>	Not determined
<b>Vapour Pressure</b>	Not determined
<b>Vapour density</b>	Not determined
<b>Relative density</b>	Not determined
<b>Solubility in / Miscibility with water</b>	Not determined
<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>	Not determined
<b>Explosive properties</b>	Not determined
<b>Oxidising properties</b>	Not determined

## 9.2 Other information

<b>VOC Content g/l:</b>	0
<b>Specific Gravity (g/cm<sup>3</sup>)</b>	0.097

## 10. Stability and Reactivity

### 10.1 Reactivity

No reactivity hazards known under normal storage and use conditions.

### 10.2 Chemical stability

Stable under recommended storage conditions. Stable under normal conditions.

### 10.3 Possibility of hazardous reactions

No Information

### 10.4 Conditions to avoid

Avoid heat, sparks, flames and other ignition sources.

### 10.5 Incompatible materials

Strong oxidizing agents. Keep away from strong oxidising agents and strongly acid or alkaline materials.

### 10.6 Hazardous decomposition products

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

## 11. Toxicological Information

### 11.1 Information on toxicological effects

**Acute Toxicity:**

**Oral LD50:** No information available.

**Inhalation LC50:** No information available.

**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:** 2-(2-aminoethylamino)ethanol is Toxic for Reproduction Category 2, May cause harm to the unborn child and Possible risk of impaired fertility.  
Nonylphenol is Toxic for Reproduction Category 3, Possible risk of impaired fertility and Possible risk of harm to the unborn child.

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>
25154-52-3	Nonylphenol	1620 mg/kg oral		
9046-10-0	polyoxypropylenediamine	2855 mg/kg, rat	2980 mg/kg, rabbit	
90-72-2	2,4,6-tris(dimethylaminomethyl)phenol	2169 mg/kg oral		

**Additional Information:**

Corrosive - causes irreversible eye damage. Chronic exposure has been associated with various neurotoxic effects including permanent brain damage. Chronic exposure causes drying effect on the skin and eczema. Inhalation of vapour or mist can cause headache, nausea, irritation of nose, throat, and lungs. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. Corrosive to skin.

## 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:**Avoid subsoil penetration.  
Prevent product from entering drains, do not contaminate surface water.

<u>CAS-No.</u>	<u>Chemical Name</u>	<u>EC50 48hr</u>	<u>IC50 72hr</u>	<u>LC50 96hr</u>
25154-52-3	Nonylphenol	0.0848 mg/l	No information	0.128 mg/l
9046-10-0	polyoxypropylenediamine	No information	No information	Not available
90-72-2	2,4,6-tris(dimethylaminomethyl)phenol	No information	No information	Not available
71074-89-0	bis (dimethylaminomethyl) phenol	No information	No information	Not available

**13. Disposal Considerations**

**13.1 WASTE TREATMENT METHODS:** Do not burn, or use a cutting torch on, the empty drum. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Empty containers should be taken to an approved waste handling site for recycling or disposal. Dispose of waste material at an approved (hazardous) waste treatment/disposal facility in accordance with applicable local state, and federal regulations. Do not dispose of waste with normal garbage, or to sewer systems.

**14. Transport Information**

14.1 UN number	2735
14.2 UN proper shipping name	Amines, liquid, corrosive n.o.s.
Technical name	Not applicable
14.3 Transport hazard class(es)	8
Subsidiary shipping hazard	Not applicable
14.4 Packing group	III
14.5 Environmental hazards	Yes
14.6 Special precautions for user	Not applicable
EmS-No.:	Not applicable
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code	Not applicable
14.8 ADG Hazchem Code	2X

**15. Regulatory Information****15.1 Safety, health and environmental regulations/legislation for the substance or mixture:****National Regulations:**

Denmark Product Registration Number:	Not available
Danish MAL Code:	Not available
Danish MAL Code - Mixture:	Not available
Sweden Product Registration Number:	Not available
Norway Product Registration Number:	Not available
WGK Class:	Not available

**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:**

H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H361	Suspected of damaging fertility or the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
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;  
 European Union Commission Regulation No. 1907/2006 on REACH as amended within Commission Regulation (EU) 2015/830;  
 European Union (EC) Regulation No. 1272/2008 on the classification, labelling and packaging of substances and mixtures (CLP Regulation) and subsequent technical progress adaptations (ATP);  
 EU Council Decision 2000/532/EC and its Annex entitled "List of Wastes".

## Acronym &amp; 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 modified by the Protocol of 1978
IBC	International Bulk Container
RTI	Respiratory Tract Irritation
NE	Narcotic Effects

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.

