

Issue Date 30-Jun-2015

Revision Date 01-Mar-2018

Version 1

## 1. IDENTIFICATION

### Product identifier

**Product Name** Tuffbond 3661A

### Other means of identification

**Product Code** MS-3661

**UN/ID no.** UN 3082

**Synonyms** None

### Recommended use of the chemical and restrictions on use

**Recommended Use** Epoxy Adhesive.

**Uses advised against** None known

### Details of the supplier of the safety data sheet

#### **Manufacturer Address**

Hernon Manufacturing Inc.  
121 Tech Drive  
Sanford, FL 32771  
800-527-0004

### Emergency telephone number

**Company Phone Number** 407-322-4000

**Emergency Telephone** Chemtel 800-255-3924

## 2. HAZARDS IDENTIFICATION

### Classification

#### **OSHA Regulatory Status**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Skin sensitization	Category 1B
Carcinogenicity	Category 2

### Label elements

#### **Emergency Overview**

##### **Warning**

##### **Hazard statements**

Causes skin irritation

Causes serious eye irritation

May cause an allergic skin reaction

Suspected of causing cancer

**Appearance** No information available**Physical state** Liquid**Odor** Mild**Precautionary Statements - Prevention**

Obtain special instructions before use  
 Do not handle until all safety precautions have been read and understood  
 Use personal protective equipment as required  
 Wash face, hands and any exposed skin thoroughly after handling  
 Avoid breathing dust/fume/gas/mist/vapors/spray  
 Contaminated work clothing should not be allowed out of the workplace  
 Wear protective gloves

**Precautionary Statements - Response**

IF exposed or concerned: Get medical advice/attention  
 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  
 Take off contaminated clothing and wash before reuse  
 If skin irritation or rash occurs: Get medical advice/attention

**Precautionary Statements - Storage**

Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Not applicable

**Other Information**

Toxic to aquatic life with long lasting effects

**3. COMPOSITION/INFORMATION ON INGREDIENTS****Substance**

Chemical Name	CAS No.	Weight-%	Trade Secret
BISPHENOL A EPOXY RESIN	25068-38-6	30 - 60	*
CALCINED ALUMINA	1344-28-1	15 - 40	*
BISPHENOL F EPOXY RESIN	28064-14-4	10 - 30	*
TITANIUM DIOXIDE	13463-67-7	0.1 - 1	*

\*The exact percentage (concentration) of composition has been withheld as a trade secret.

**4. FIRST AID MEASURES****Description of first aid measures****Eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids.  
 Consult a physician.

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<b>Skin contact</b>	Wash with soap and water. Flush skin with water for several minutes. Remove contaminated clothing and shoes. If irritation develops, seek medical attention. Wash clothing before reuse.
<b>Inhalation</b>	Remove to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. Get medical attention immediately.
<b>Ingestion</b>	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a POISON CENTER or doctor/physician if you feel unwell.

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

**Symptoms** No information available.

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

**Note to physicians** Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

**Suitable extinguishing media**

Carbon dioxide (CO<sub>2</sub>). Extinguishing powder. Water spray (fog).

**Unsuitable extinguishing media** Water jet.

**Specific hazards arising from the chemical**

No information available.

**Hazardous combustion products** Carbon monoxide. Carbon dioxide (CO<sub>2</sub>). Nitrogen oxides (NO<sub>x</sub>).

**Explosion data**

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

**Protective equipment and precautions for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Use personal protective equipment as required. Ensure adequate ventilation, especially in confined areas.

**Environmental precautions**

**Environmental precautions** Do not allow into any sewer, on the ground or into any body of water. See Section 12 for additional ecological information.

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

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Store in a closed container until ready for disposal.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Advice on safe handling** Avoid contact with skin, eyes or clothing. Avoid breathing vapors or mists. Wash thoroughly after handling. Ensure adequate ventilation, especially in confined areas.

### Conditions for safe storage, including any incompatibilities

**Storage Conditions** Keep at temperatures between 7 and 29 °C.

**Incompatible materials** Acids. Bases. Amines. Oxidizing agents.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
CALCINED ALUMINA 1344-28-1	TWA: 1 mg/m <sup>3</sup> respirable particulate matter	TWA: 15 mg/m <sup>3</sup> total dust TWA: 5 mg/m <sup>3</sup> respirable fraction (vacated) TWA: 10 mg/m <sup>3</sup> total dust (vacated) TWA: 5 mg/m <sup>3</sup> respirable fraction	-
TITANIUM DIOXIDE 13463-67-7	TWA: 10 mg/m <sup>3</sup>	TWA: 15 mg/m <sup>3</sup> total dust (vacated) TWA: 10 mg/m <sup>3</sup> total dust	IDLH: 5000 mg/m <sup>3</sup>

### Appropriate engineering controls

**Engineering Controls** Showers  
Eyewash stations  
Ventilation systems.

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

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

**Skin and body protection** Wear protective gloves and protective clothing.

**Respiratory protection** If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

**General Hygiene Considerations** Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid	<b>Odor</b>	Mild
<b>Appearance</b>	No information available	<b>Odor threshold</b>	No information available
<b>Color</b>	White		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>	Does not apply	
<b>Melting point / freezing point</b>	No information available	
<b>Boiling point / boiling range</b>	> 260 °C / 500 °F	

Flash point	> 252 °C / 486 °F
Evaporation rate	No information available
Flammability (solid, gas)	No information available
Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor pressure	No information available
Vapor density	No information available
Relative density	1.58
Water solubility	Insoluble
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available
Dynamic viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

**Other Information**

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Density	No information available
Bulk density	No information available

## 10. STABILITY AND REACTIVITY

**Reactivity**

No data available

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**

None under normal processing.

**Conditions to avoid**

Incompatible materials.

**Incompatible materials**

Acids. Bases. Amines. Oxidizing agents.

**Hazardous Decomposition Products**Carbon monoxide. Carbon dioxide (CO<sub>2</sub>).

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure****Product Information**

Inhalation	No data available.
Eye contact	No data available.
Skin contact	No data available.
Ingestion	No data available.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
BISPHENOL A EPOXY RESIN 25068-38-6	= 11400 mg/kg ( Rat )	-	-
CALCINED ALUMINA 1344-28-1	> 5000 mg/kg ( Rat )	-	-
TITANIUM DIOXIDE 13463-67-7	> 10000 mg/kg ( Rat )	-	-

**Information on toxicological effects**

**Symptoms** No information available.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Sensitization** No information available.

**Germ cell mutagenicity** No information available.

**Carcinogenicity**

Chemical Name	ACGIH	IARC	NTP	OSHA
TITANIUM DIOXIDE 13463-67-7	-	Group 2B	-	X

**Reproductive toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Aspiration hazard** No information available.

**Numerical measures of toxicity - Product Information**

The following values are calculated based on chapter 3.1 of the GHS document.

ATEmix (oral) 7,273.00 mg/kg

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

Toxic to aquatic life with long lasting effects

**Persistence and degradability**

No information available.

**Bioaccumulation**

No information available.

**Other adverse effects**

No information available.

## 13. DISPOSAL CONSIDERATIONS

**Waste treatment methods**

**Disposal of wastes** Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Contaminated packaging** Do not reuse container.

## 14. TRANSPORT INFORMATION

**DOT**

<b>UN/ID no.</b>	UN 3082
<b>Proper shipping name</b>	Environmentally hazardous substance, liquid, n.o.s.(Bisphenol A, Bisphenol F Epoxy Resin)
<b>Hazard Class</b>	9
<b>Packing Group</b>	III
<b>Marine pollutant</b>	Yes
<b>Special Provisions</b>	8, 146, 173, 335, IB3, T4, TP1, TP29
<b>Description</b>	Note: Not regulated for ground transport

**IATA**

<b>UN/ID no.</b>	UN 3082
<b>Proper shipping name</b>	Environmentally hazardous substance, liquid, n.o.s.(Bisphenol A, Bisphenol F Epoxy Resin)
<b>Hazard Class</b>	9
<b>Packing Group</b>	III
<b>Special Provisions</b>	A97, A158, A197
<b>Description</b>	Limited quantities: 5 L, 30 kg gross weight

**IMDG**

<b>UN/ID no.</b>	UN 3082
<b>Proper shipping name</b>	Environmentally hazardous substance, liquid, n.o.s.(Bisphenol A, Bisphenol F Epoxy Resin)
<b>Hazard Class</b>	9
<b>Packing Group</b>	III
<b>EmS-No.</b>	F-A, S-F
<b>Special Provisions</b>	274, 335, 969
<b>Marine pollutant</b>	Yes
<b>Description</b>	Limited quantities: 5 L, 30 kg gross weight

## 15. REGULATORY INFORMATION

**International Inventories**

<b>TSCA</b>	Complies
<b>DSL/NDSL</b>	Complies
<b>EINECS/ELINCS</b>	Complies
<b>ENCS</b>	Complies
<b>IECSC</b>	Complies
<b>KECL</b>	Complies
<b>PICCS</b>	Complies
<b>AICS</b>	Complies

All ingredients are on the inventory or are exempt from listing.

**Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AICS** - Australian Inventory of Chemical Substances

**US Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

<b>Chemical Name</b>	<b>SARA 313 - Threshold Values %</b>
CALCINED ALUMINA - 1344-28-1	1.0

**SARA 311/312 Hazard Categories**

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

**CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

**US State Regulations****California Proposition 65**

This product contains the following Proposition 65 chemicals

<b>Chemical Name</b>	<b>California Proposition 65</b>
TITANIUM DIOXIDE - 13463-67-7	Carcinogen

**U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
CALCINED ALUMINA 1344-28-1	X	X	X
TITANIUM DIOXIDE 13463-67-7	X	X	X

**U.S. EPA Label Information**

EPA Pesticide Registration Number Not applicable

**16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION**

<b>NFPA</b>	Health hazards 2	Flammability 1	Instability 0	Physical and Chemical Properties -
<b>HMIS</b>	Health hazards 2	Flammability 1	Physical hazards 0	Personal protection -

Prepared By	SDS coordinator
Issue Date	30-Jun-2015
Revision Date	01-Mar-2018
Revision Note	No information available

**Disclaimer**

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet



Issue Date 28-Sep-2017

Revision Date 29-Nov-2017

Version 1

**1. IDENTIFICATION****Product identifier****Product Name** Tuffbond 3661B**Other means of identification****Product Code** MS-3661B**UN/ID no.** UN1760**Synonyms** None**Recommended use of the chemical and restrictions on use****Recommended Use** Hardener.**Uses advised against** None known**Details of the supplier of the safety data sheet****Manufacturer Address**Hernon Manufacturing Inc.  
121 Tech Drive  
Sanford, FL 32771  
800-527-0004**Emergency telephone number****Company Phone Number** 407-322-4000**Emergency Telephone** Chemtel 800-255-3924**2. HAZARDS IDENTIFICATION****Classification****OSHA Regulatory Status**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 4
Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1
Carcinogenicity	Category 2
Reproductive toxicity	Category 2
Flammable liquids	Category 4

**Label elements****Emergency Overview****Danger****Hazard statements**Harmful if swallowed  
Harmful in contact with skin  
Causes severe skin burns and eye damage  
May cause an allergic skin reaction  
Suspected of causing cancer  
Suspected of damaging fertility or the unborn child  
Combustible liquid

**Appearance** No information available**Physical state** Liquid**Odor** Unpleasant**Precautionary Statements - Prevention**

Obtain special instructions before use  
 Do not handle until all safety precautions have been read and understood  
 Use personal protective equipment as required  
 Wash face, hands and any exposed skin thoroughly after handling  
 Do not eat, drink or smoke when using this product  
 Do not breathe dust/fume/gas/mist/vapors/spray  
 Contaminated work clothing should not be allowed out of the workplace  
 Wear protective gloves

**Precautionary Statements - Response**

Immediately 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  
 Immediately call a POISON CENTER or doctor/physician  
 Call a POISON CENTER or doctor/physician if you feel unwell  
 Wash contaminated clothing before reuse  
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
 If skin irritation or rash occurs: Get medical advice/attention  
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
 Immediately call a POISON CENTER or doctor/physician  
 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
 Rinse mouth  
 Do NOT induce vomiting

**Precautionary Statements - Storage**

Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Not applicable

**Other Information**

Very toxic to aquatic life with long lasting effects  
 Very toxic to aquatic life

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Substance**

Chemical Name	CAS No.	Weight-%	Trade Secret
CALCINED ALUMINA	1344-28-1	30 - 60	*
1-(2-Aminoethyl) piperazine	140-31-8	15 - 40	*
Nonylphenol	25154-52-3	10 - 30	*
CARBON BLACK	1333-86-4	0.1 - 1	*

\*The exact percentage (concentration) of composition has been withheld as a trade secret.

#### 4. FIRST AID MEASURES

##### Description of first aid measures

<b>Eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
<b>Skin contact</b>	Wash with soap and water. Flush skin with water for several minutes. Remove contaminated clothing and shoes. If irritation develops, seek medical attention. Wash clothing before reuse.
<b>Inhalation</b>	Remove to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. Get medical attention immediately.
<b>Ingestion</b>	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a POISON CENTER or doctor/physician if you feel unwell.

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

**Symptoms** No information available.

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

**Note to physicians** Treat symptomatically.

#### 5. FIRE-FIGHTING MEASURES

##### Suitable extinguishing media

Alcohol-resistant foam, carbon dioxide, dry chemical, dry sand, limestone powder.

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

##### Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

**Hazardous combustion products** No information available.

##### Explosion data

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

##### Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

#### 6. ACCIDENTAL RELEASE MEASURES

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

**Personal precautions** Use personal protective equipment as required. Ensure adequate ventilation, especially in confined areas.

##### Environmental precautions

**Environmental precautions** Do not allow into any sewer, on the ground or into any body of water. Dike to collect large liquid spills. See Section 12 for additional ecological information.

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

<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	Approach suspected leak areas with caution. Place in appropriate chemical waste container.

**7. HANDLING AND STORAGE****Precautions for safe handling**

<b>Advice on safe handling</b>	Avoid contact with skin, eyes or clothing. Avoid breathing vapors or mists. Wash thoroughly after handling. Ensure adequate ventilation, especially in confined areas.
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**Conditions for safe storage, including any incompatibilities**

<b>Storage Conditions</b>	Keep at temperatures between 7 and 29 °C.
<b>Incompatible materials</b>	sSodium hypochlorite. organic acids. mineral acids. Peroxides.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Control parameters****Exposure Guidelines**

<b>Chemical Name</b>	<b>ACGIH TLV</b>	<b>OSHA PEL</b>	<b>NIOSH IDLH</b>
CALCINED ALUMINA 1344-28-1	TWA: 1 mg/m <sup>3</sup> respirable particulate matter	TWA: 15 mg/m <sup>3</sup> total dust TWA: 5 mg/m <sup>3</sup> respirable fraction (vacated) TWA: 10 mg/m <sup>3</sup> total dust (vacated) TWA: 5 mg/m <sup>3</sup> respirable fraction	-
CARBON BLACK 1333-86-4	TWA: 3 mg/m <sup>3</sup> inhalable particulate matter	TWA: 3.5 mg/m <sup>3</sup> (vacated) TWA: 3.5 mg/m <sup>3</sup>	IDLH: 1750 mg/m <sup>3</sup> TWA: 3.5 mg/m <sup>3</sup> TWA: 0.1 mg/m <sup>3</sup> Carbon black in presence of Polycyclic aromatic hydrocarbons PAH

**Appropriate engineering controls**

<b>Engineering Controls</b>	Showers Eyewash stations Ventilation systems.
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**Individual protection measures, such as personal protective equipment**

<b>Eye/face protection</b>	Wear safety glasses with side shields (or goggles).
<b>Skin and body protection</b>	Wear protective gloves and protective clothing. Use rubber or plastic gloves.
<b>Respiratory protection</b>	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
<b>General Hygiene Considerations</b>	Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid	<b>Odor</b>	Unpleasant
<b>Appearance</b>	No information available	<b>Odor threshold</b>	No information available
<b>Color</b>	Black		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>	Does not apply	
<b>Melting point / freezing point</b>	No information available	
<b>Boiling point / boiling range</b>	> 149 °C / 300 °F	
<b>Flash point</b>	> 93 °C / 200 °F	
<b>Evaporation rate</b>	No information available	
<b>Flammability (solid, gas)</b>	No information available	
<b>Flammability Limit in Air</b>		
<b>Upper flammability limit:</b>	No information available	
<b>Lower flammability limit:</b>	No information available	
<b>Vapor pressure</b>	No information available	
<b>Vapor density</b>	No information available	
<b>Relative density</b>	1.63	
<b>Water solubility</b>	Low	
<b>Solubility in other solvents</b>	No information available	
<b>Partition coefficient</b>	No information available	
<b>Autoignition temperature</b>	No information available	
<b>Decomposition temperature</b>	No information available	
<b>Kinematic viscosity</b>	No information available	
<b>Dynamic viscosity</b>	No information available	
<b>Explosive properties</b>	No information available	
<b>Oxidizing properties</b>	No information available	

### Other Information

<b>Softening point</b>	No information available
<b>Molecular weight</b>	No information available
<b>VOC Content (%)</b>	No information available
<b>Density</b>	No information available
<b>Bulk density</b>	No information available

## 10. STABILITY AND REACTIVITY

### Reactivity

No data available

### Chemical stability

Stable under recommended storage conditions.

### Possibility of Hazardous Reactions

None under normal processing.

### Conditions to avoid

Incompatible materials.

### Incompatible materials

sodium hypochlorite. organic acids. mineral acids. Peroxides.

### Hazardous Decomposition Products

Nitric acid. Ammonia. Nitrogen oxides (NOx). Carbon monoxide. Carbon dioxide (CO2). Aldehydes. Hydrocarbons.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### Product Information

<b>Inhalation</b>	No data available.
<b>Eye contact</b>	No data available.
<b>Skin contact</b>	No data available.
<b>Ingestion</b>	No data available.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
CALCINED ALUMINA 1344-28-1	> 5000 mg/kg ( Rat )	-	-
1-(2-Aminoethyl) piperazine 140-31-8	= 2140 µL/kg ( Rat )	= 880 µL/kg ( Rabbit )	-
Nonylphenol 25154-52-3	= 580 mg/kg ( Rat )	= 2031 mg/kg ( Rabbit )	-
CARBON BLACK 1333-86-4	> 15400 mg/kg ( Rat )	> 3 g/kg ( Rabbit )	-

### Information on toxicological effects

**Symptoms** No information available.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Sensitization** No information available.  
**Germ cell mutagenicity** No information available.

#### Carcinogenicity

Chemical Name	ACGIH	IARC	NTP	OSHA
CARBON BLACK 1333-86-4	A3	Group 2B	-	X

**Reproductive toxicity** No information available.  
**STOT - single exposure** No information available.  
**STOT - repeated exposure** No information available.  
**Aspiration hazard** No information available.

### Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document.

<b>ATEmix (oral)</b>	1,063.00 mg/kg
<b>ATEmix (dermal)</b>	1,361.00 mg/kg

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Very toxic to aquatic life with long lasting effects

Chemical Name	Algae/aquatic plants	Fish	Crustacea
1-(2-Aminoethyl) piperazine 140-31-8	495: 72 h Pseudokirchneriella subcapitata mg/L EC50	1950 - 2460: 96 h Pimephales promelas mg/L LC50 flow-through 1000: 96 h Poecilia reticulata mg/L LC50 semi-static 100: 96 h Oncorhynchus mykiss mg/L LC50 semi-static	32: 48 h Daphnia magna mg/L EC50
Nonylphenol	0.41: 96 h Pseudokirchneriella	0.135: 96 h Pimephales promelas	0.0874 - 0.124: 48 h Daphnia

25154-52-3	subcapitata mg/L EC50 1.3: 72 h Desmodosmus subspicatus mg/L EC50	mg/L LC50 flow-through	magna mg/L EC50 semi-static 0.17 - 0.21: 48 h Daphnia magna mg/L EC50 Static 0.14: 48 h Daphnia magna mg/L EC50
CARBON BLACK 1333-86-4	-	-	5600: 24 h Daphnia magna mg/L EC50

**Persistence and degradability**

No information available.

**Bioaccumulation**

Chemical Name	Partition coefficient
1-(2-Aminoethyl) piperazine 140-31-8	-1.48
Nonylphenol 25154-52-3	3.28

**Other adverse effects**

No information available

**13. DISPOSAL CONSIDERATIONS****Waste treatment methods****Disposal of wastes**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Contaminated packaging**

Do not reuse container.

**14. TRANSPORT INFORMATION****DOT**

UN/ID no. UN1760  
 Proper shipping name Corrosive liquids, n.o.s. (1-(2-Aminoethyl) piperazine)  
 Hazard Class 8  
 Packing Group III  
 Special Provisions IB3, T4, TP1

**ICAO (air)**

UN/ID no. U Corrosive liquids, n.o.s. (1-(2-Aminoethyl) piperazine)  
 Proper shipping name N 1760  
 Hazard Class 8  
 Packing Group III  
 Special Provisions Limited Quantities: 5L

**IMDG**

UN/ID no. UN 1760  
 Proper shipping name Corrosive liquids, n.o.s. (1-(2-Aminoethyl) piperazine)  
 Hazard Class 8  
 Packing Group III  
 Special Provisions Limited Quantities: 5L

**RID**

UN/ID no. UN 1760  
 Proper shipping name Corrosive liquids, n.o.s. (1-(2-Aminoethyl) piperazine)  
 Hazard Class 8  
 Packing Group III  
 Special Provisions Limited Quantities: 5L

## 15. REGULATORY INFORMATION

### International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

All ingredients are on the inventory or are exempt from listing.

### Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

### US Federal Regulations

#### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 - Threshold Values %
CALCINED ALUMINA - 1344-28-1	1.0
Nonylphenol - 25154-52-3	1.0

#### SARA 311/312 Hazard Categories

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

#### CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

#### CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

### US State Regulations

#### California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical Name	California Proposition 65
CARBON BLACK - 1333-86-4	Carcinogen



**U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
CALCINED ALUMINA 1344-28-1	X	X	X
1-(2-Aminoethyl) piperazine 140-31-8	X	X	X
Nonylphenol 25154-52-3	-	X	X
CARBON BLACK 1333-86-4	X	X	X

**U.S. EPA Label Information**

EPA Pesticide Registration Number Not applicable

**16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION**

**NFPA**                      Health hazards -      Flammability -      Instability -      Physical and Chemical Properties -  
**HMIS**                      Health hazards -      Flammability -      Physical hazards -      Personal protection -

Prepared By                      SDS coordinator  
Issue Date                        28-Sep-2017  
Revision Date                      29-Nov-2017  
Revision Note                      No information available

**Disclaimer**

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of Safety Data Sheet**