

BELZONA® 1111 - SUPER METAL (SOLIDIFIER)



Date of compilation: 12/28/2023

Version: 1

SECTION 1: IDENTIFICATION

- 1.1 GHS Product identifier:** BELZONA® 1111 - SUPER METAL (SOLIDIFIER)
Other means of identification:
SN3015
- 1.2 Recommended use of the chemical and restrictions on use:**
Relevant uses: Filler for repairing surfaces. For industrial user only.
Uses advised against: All uses not specified in this section or in section 7.3
- 1.3 Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party:**
Belzona, Inc.
14300 NW 60th Avenue
33014 Miami Lakes - Florida - United States
Phone: +1 305 594 4994
sds@belzona.com
www.belzona.com
- 1.4 Emergency phone number:** VelocityEHS (24/7/365):
1-800-255-3924 [US, CANADA, PUERTO RICO & THE U.S. VIRGIN ISLANDS]
1-813-248-0585 [INTERNATIONAL]

SECTION 2: HAZARD(S) IDENTIFICATION

- 2.1 Classification of the substance or mixture:**
NFPA:
Health Hazards: 4
Flammability Hazards: 1
Instability Hazards: 0
Special Hazards: Not applicable (N/A)
29 CFR 1910.1200:
Classification of this product has been carried out in accordance with paragraph (d) of § 1910.1200.
Eye Dam. 1: Serious eye damage, Category 1, H318
Skin Corr. 1B: Skin corrosion, Category 1B, H314
Skin Sens. 1B: Sensitisation, skin, Category 1B, H317
- 2.2 Label elements:**
NFPA:

29 CFR 1910.1200:
Danger

Hazard statements:
Skin Corr. 1B: H314 - Causes severe skin burns and eye damage.
Skin Sens. 1B: H317 - May cause an allergic skin reaction.
Precautionary statements:
P260: Do not breathe vapors.
P280: Wear protective gloves/protective clothing/eye protection.
P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310: Immediately call a poison center/doctor.
P501: Dispose of contents and / or containers in accordance with regulations on hazardous waste or packaging and packaging waste respectively.
- 2.3 Hazards not otherwise classified (HNOC):**

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SECTION 2: HAZARD(S) IDENTIFICATION (continued)

Not applicable (N/A)

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances:

Non-applicable

3.2 Mixtures:

Chemical description: Formulated polyamines

Components:

Remaining components are non-hazardous and/or present at amounts below reportable limits. The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200. Therefore, in accordance with Appendix D to § 1910.1200, the product contains:

Identification	Chemical name	Concentration
CAS: 111-40-0	2,2'-iminodiethylamine	10 - <30 %
CAS: 100-51-6	benzyl alcohol	5 - <10 %
CAS: 1477-55-0	m-phenylenebis(methylamine)	1 - <5 %
CAS: 90-72-2	2,4,6-tris(dimethylaminomethyl)phenol	1 - <5 %
CAS: 25513-64-8	2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine	1 - <5 %

To obtain more information on the hazards of the substances consult sections 11, 12 and 16.

2,2'-IMINODIETHYLAMINE (DIETHYLENETRIAMINE) [111-40-0] IS TOXIC BY INHALATION (H330) WHEN AEROSOLIZED OR SPRAYED. HOWEVER, THE CHEMICAL VAPORS SHOW NO SIGN OF TOXICITY. IF THE PRODUCT IS NOT AEROSOLIZED OR SPRAYED, INHALATION TOXICITY DOES NOT APPLY WHEN CALCULATING THE TOXICITY OF THE FINISHED PRODUCT.

SECTION 4: FIRST-AID MEASURES

4.1 Description of necessary measures:

Request medical assistance immediately, showing the SDS of this product.

By inhalation:

This product is not classified as hazardous through inhalation, however, it is recommended in case of intoxication symptoms to remove the person affected from the area of exposure, provide clean air and keep at rest. Request medical attention if symptoms persist.

By skin contact:

Remove contaminated clothing and footwear, rinse skin or shower the person affected if appropriate with plenty of cold water and neutral soap. In serious cases see a doctor. If the product causes burns or freezing, clothing should not be removed as this could worsen the injury caused if it is stuck to the skin. If blisters form on the skin, these should never be burst as this will increase the risk of infection.

By eye contact:

Rinse eyes thoroughly with lukewarm water for at least 15 minutes. Do not allow the person affected to rub or close their eyes. If the injured person uses contact lenses, these should be removed unless they are stuck to the eyes, as this could cause further damage. In all cases, after cleaning, a doctor should be consulted as quickly as possible with the SDS of the product.

By ingestion/aspiration:

Request immediate medical assistance, showing the SDS of this product. Do not induce vomiting, because its expulsion from the stomach can be hazardous to the mucus of the main digestive tract, and its inhalation, to the respiratory system. Rinse out the mouth and throat, as they may have been affected during ingestion. In the case of loss of consciousness do not administer anything orally unless supervised by a doctor. Keep the person affected at rest.

4.2 Most important symptoms/effects, acute and delayed:

Acute and delayed effects are indicated in sections 2 and 11.

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SECTION 4: FIRST-AID MEASURES (continued)

4.3 Indication of immediate medical attention and special treatment needed, if necessary:

Not applicable (N/A)

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Suitable (and unsuitable) extinguishing media:

Suitable extinguishing media:

Product is non-flammable under normal conditions of storage, handling and use. In the case of combustion as a result of improper handling, storage or use preferably use polyvalent powder extinguishers (ABC powder), in accordance with the Regulation on fire protection systems.

Unsuitable extinguishing media:

Non-applicable

5.2 Specific hazards arising from the chemical:

As a result of combustion or thermal decomposition reactive sub-products are created that can become highly toxic and, consequently, can present a serious health risk.

5.3 Special protective equipment and precautions for fire-fighters:

Depending on the magnitude of the fire it may be necessary to use full protective clothing and individual respiratory equipment. Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit,...)

Additional provisions:

As in any fire, prevent human exposure to fire, smoke, fumes or products of combustion. Only properly trained personnel should be involved in firefighting. Evacuate nonessential personnel from the fire area. Destroy any source of ignition. In case of fire, refrigerate the storage containers and tanks for products susceptible to inflammation. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel:

Sweep up and shovel product or other means and place in container for reuse (preferred) or disposal

For emergency responders:

Wear protective equipment. Keep unprotected persons away. See section 8.

6.2 Environmental precautions:

This product is not classified as hazardous to the environment. Keep product away from drains, surface and underground water.

6.3 Methods and materials for containment and cleaning up:

For accidental releases in excess of reportable quantities (RQ) (Table 302.4), refer to 40 CFR 302 for detailed instructions concerning reporting requirements and notify the National Response Center (800) 424-8802.

Sweep up and shovel product or other means and place in container for reuse (preferred) or disposal

6.4 Reference to other sections:

See sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling:

A.- General precautions for safe use

Comply with the current legislation concerning the prevention of industrial risks with regards manually handling weights. Maintain order, cleanliness and dispose of using safe methods (section 6).

B.- Technical recommendations for the prevention of fires and explosions

Due to its non-flammable nature, the product does not present a fire risk under normal conditions of storage, manipulation and use.

C.- Technical recommendations on general occupational hygiene

Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

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SECTION 7: HANDLING AND STORAGE (continued)

D.- Technical recommendations to prevent environmental risks

It is recommended to have absorbent material available at close proximity to the product (See subsection 6.3)

7.2 Conditions for safe storage, including any incompatibilities:

A.- Specific storage requirements

Minimum Temp.: 41 °F

Maximum Temp.: 86 °F

B.- General conditions for storage

Avoid sources of heat, radiation, static electricity and contact with food. For additional information see subsection 10.5

7.3 Specific end use(s):

Except for the instructions already specified it is not necessary to provide any special recommendation regarding the uses of this product.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters:

Substances whose occupational exposure limits have to be monitored in the workplace:

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000):

Identification	Occupational exposure limits		
	8-hour TWA PEL		
Aluminum Oxide CAS: 1344-28-1			5 mg/m ³
	Ceiling Values - TWA PEL		
Titanium dioxide CAS: 13463-67-7			15 mg/m ³
	Ceiling Values - TWA PEL		
Magnesium carbonate CAS: 546-93-0			5 mg/m ³
	Ceiling Values - TWA PEL		
Limestone CAS: 1317-65-3			5 mg/m ³
	Ceiling Values - TWA PEL		

US. ACGIH Threshold Limit Values (2022):

Identification	Occupational exposure limits		
	TLV-TWA	TLV-STEL	
2,2'-iminodiethylamine CAS: 111-40-0		1 ppm	
	TLV-TWA		
Aluminum Oxide CAS: 1344-28-1			1 mg/m ³
	TLV-TWA		
Titanium dioxide CAS: 13463-67-7			2.5 mg/m ³
	TLV-TWA		
Talc CAS: 14807-96-6			2 mg/m ³
	TLV-TWA		
Limestone CAS: 1317-65-3			10 mg/m ³
	TLV-TWA		
Quartz (RCS > 10%) CAS: 14808-60-7			0.025 mg/m ³
	TLV-TWA		

CALIFORNIA- TABLE AC-1 PERMISSIBLE EXPOSURE LIMITS FOR CHEMICAL CONTAMINANTS:

Identification	Occupational exposure limits		
	PEL	STEL	
m-phenylenebis(methylamine) CAS: 1477-55-0			0.1 mg/m ³
	PEL		
2,2'-iminodiethylamine CAS: 111-40-0		1 ppm	4 mg/m ³
	PEL		
Aluminum Oxide CAS: 1344-28-1			2 mg/m ³
	PEL		
Talc CAS: 14807-96-6			2 mg/m ³
	PEL		
Quartz (RCS > 10%) CAS: 14808-60-7			0.05 mg/m ³
	PEL		

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)


Nuisance dust: Inhalable dust 10 mg/m³ // Respirable dust 4 mg/m³

8.2 Appropriate engineering controls:


A.- Individual protection measures, such as personal protective equipment

As a preventative measure it is recommended to use basic Personal Protection Equipment. For more information on Personal Protection Equipment (storage, use, cleaning, maintenance, class of protection,...) consult the information leaflet provided by the manufacturer. For more information see subsection 7.1. All information contained herein is a recommendation, the information on clothing performance must be combined with professional judgment, and a clear understanding of the clothing application, to provide the best protection to the worker. All chemical protective clothing use must be based on a hazard assessment to determine the risks for exposure to chemicals and other hazards. Conduct hazard assessments in accordance with 29 CFR 1910.132.

B.- Respiratory protection


Pictogram	PPE	Remarks
 Mandatory respiratory tract protection	Filter mask for gases and vapours	Replace when there is a taste or smell of the contaminant inside the face mask. If the contaminant comes with warnings it is recommended to use isolation equipment. Use respirator in accordance with manufacturer's use limitations and OSHA standard 1910.134 (29CFR)

C.- Specific protection for the hands



Pictogram	PPE	Remarks
 Mandatory hand protection	Chemical protective gloves (Material: Chloroprene, Breakthrough time: > 480 min, Thickness: 0.65 mm)	The Breakthrough Time indicated by the manufacturer must exceed the period during which the product is being used. Do not use protective creams after the product has come into contact with skin. Use gloves in accordance with manufacturer's use limitations and OSHA standard 1910.138 (29CFR)

As the product is a mixture of several substances, the resistance of the glove material can not be calculated in advance with total reliability and has therefore to be checked prior to the application.



D.- Eye and face protection

Pictogram	PPE	Remarks
 Mandatory face protection	Face shield	Clean daily and disinfect periodically according to the manufacturer's instructions. Use if there is a risk of splashing. Use this PPE in accordance with manufacturer's use limitations and OSHA standard 1910.133 (29CFR)

E.- Bodily protection

Pictogram	PPE	Remarks
 Mandatory complete body protection	Disposable clothing for protection against chemical risks	For professional use only. Clean periodically according to the manufacturer's instructions.
 Mandatory foot protection	Safety footwear for protection against chemical risk	Replace boots at any sign of deterioration. Use foot protection in accordance with manufacturer's use limitations and OSHA standard 1910.136 (29CFR)

F.- Additional emergency measures

Emergency measure	Standards	Emergency measure	Standards
 Emergency shower	ANSI Z358-1 ISO 3864-1:2011, ISO 3864-4:2011	 Eyewash stations	DIN 12 899 ISO 3864-1:2011, ISO 3864-4:2011

Environmental exposure controls:

In accordance with the community legislation for the protection of the environment it is recommended to avoid environmental spillage of both the product and its container. For additional information see subsection 7.1.D

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

40 CFR Part 59 (VOC):

V.O.C.(weight-percent): 21.01 % weight

V.O.C. at 71.6 °F: Not applicable (N/A)

California Air Resources Board (CARB) - VOC Regulatory:

V.O.C.(weight-percent): 21.01 % weight

V.O.C. at 71.6 °F: Not applicable (N/A)

South Coast Air Quality Management District (AQMD) - VOC Regulatory:

V.O.C.(weight-percent): 21.01 % weight

V.O.C. at 71.6 °F: Not applicable (N/A)

Ozone Transport Commission (OTC) Rules - VOC Regulatory:

V.O.C.(weight-percent): 21.01 % weight

V.O.C. at 71.6 °F: Not applicable (N/A)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

For complete information see the product datasheet.

Appearance:

Physical state at 68 °F: Solid

Appearance: Paste

Color:  Grey

Odor: Aminic

Odour threshold: Not applicable (N/A) *

Volatility:

Boiling point at atmospheric pressure: Not applicable (N/A) *

Vapour pressure at 71.6 °F: Not applicable (N/A) *

Vapour pressure at 122 °F: Not applicable (N/A) *

Evaporation rate at 71.6 °F: Not applicable (N/A) *

Product description:

Density at 71.6 °F: Not applicable (N/A) *

Relative density at 71.6 °F: 1.6 - 1.7

Dynamic viscosity at 71.6 °F: Not applicable (N/A) *

Kinematic viscosity at 71.6 °F: Not applicable (N/A) *

Kinematic viscosity at 104 °F: >20.5 mm²/s

Concentration: Not applicable (N/A) *

pH: >7

Vapour density at 71.6 °F: Not applicable (N/A) *

Partition coefficient n-octanol/water 71.6 °F: Not applicable (N/A) *

Solubility in water at 71.6 °F: Not applicable (N/A) *

Solubility properties: Insoluble in water

Decomposition temperature: Not applicable (N/A) *

Melting point/freezing point: Not applicable (N/A) *

Flammability:

Flash Point: >212 °F

Flammability (solid, gas): Not applicable (N/A) *

*Not applicable (N/A) due to the nature of the product, not providing information property of its hazards.

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (continued)

Autoignition temperature:	676 °F
Lower flammability limit:	Not applicable (N/A) *
Upper flammability limit:	Not applicable (N/A) *
Explosive (Solid):	
Lower explosive limit:	Not applicable (N/A) *
Upper explosive limit:	Not applicable (N/A) *
Particle characteristics:	
Median equivalent diameter:	Not applicable (N/A) *

9.2 Other information:

Information with regard to physical hazard classes:

Explosive properties:	Not applicable (N/A) *
Oxidising properties:	Not applicable (N/A) *
Corrosive to metals:	Not applicable (N/A) *
Heat of combustion:	Not applicable (N/A) *
Aerosols-total percentage (by mass) of flammable components:	Not applicable (N/A) *

Other safety characteristics:

Surface tension at 71.6 °F:	Not applicable (N/A) *
Refraction index:	Not applicable (N/A) *
Total lead:	0 ppm

*Not applicable (N/A) due to the nature of the product, not providing information property of its hazards.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:

No hazardous reactions are expected because the product is stable under recommended storage conditions. See section 7 from Safety Data Sheet.

10.2 Chemical stability:

Chemically stable under the indicated conditions of storage, handling and use.

10.3 Possibility of hazardous reactions:

Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

10.4 Conditions to avoid:

Applicable for handling and storage at room temperature:

Shock and friction	Contact with air	Increase in temperature	Sunlight	Humidity
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

10.5 Incompatible materials:

Acids	Water	Oxidising materials	Combustible materials	Others
Avoid strong acids	Not applicable	Precaution	Not applicable	Avoid alkalis or strong bases

10.6 Hazardous decomposition products:

Contains substances which require external energy for spontaneous decomposition. Form explosive peroxides when distilled, evaporated or otherwise concentrated.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

The experimental information related to the toxicological properties of the product itself is not available

Dangerous health implications:

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SECTION 11: TOXICOLOGICAL INFORMATION (continued)

In case of exposure that is repetitive, prolonged or at concentrations higher than recommended by the occupational exposure limits, it may result in adverse effects on health depending on the means of exposure:

A- Ingestion (acute effect):

- Acute toxicity: Based on available data, the classification criteria are not met, however, it contains substances classified as dangerous for consumption. For more information see section 3.
- Corrosivity/Irritability: Corrosive product, if it is swallowed causes burns destroying the tissues. For more information about secondary effects from skin contact see section 2.

B- Inhalation (acute effect):

- Acute toxicity : Based on available data, the classification criteria are not met. However, it contains substances classified as hazardous for inhalation. For more information see section 3.
- Corrosivity/Irritability: Prolonged inhalation of the product is corrosive to mucous membranes and the upper respiratory tract

C- Contact with the skin and the eyes (acute effect):

- Contact with the skin: Above all, skin contact may occur as fabrics of all thicknesses can be destroyed, resulting in burns. For more information on the secondary effects see section 2.
- Contact with the eyes: Produces serious eye damage after contact.

D- CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):

- Carcinogenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for the effects mentioned. For more information see section 3.
IARC: Titanium dioxide (2B); Glass, oxide, chemicals (1); Talc (3); Quartz (RCS > 10%) (1)
- Mutagenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.
- Reproductive toxicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

E- Sensitizing effects:

- Respiratory: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous with sensitising effects. For more information see section 3.
- Skin: Prolonged contact with the skin can result in episodes of allergic contact dermatitis.

F- Specific target organ toxicity (STOT) - single exposure:

Based on available data, the classification criteria are not met. However, it contains substances classified as hazardous for inhalation. For more information see section 3.

G- Specific target organ toxicity (STOT)-repeated exposure:

- Specific target organ toxicity (STOT)-repeated exposure: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.
- Skin: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

H- Aspiration hazard:

Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

Other information:

Not applicable (N/A)

Specific toxicology information on the substances:

Identification	Acute toxicity		Genus
	LD50 oral	LD50 dermal	
benzyl alcohol CAS: 100-51-6	500 mg/kg (ATEi)		Rat
		2500 mg/kg	
		1.5 mg/L (ATEi)	
m-phenylenebis(methylamine) CAS: 1477-55-0	1090 mg/kg (ATEi)		Rat
		>5000 mg/kg	
		1.5 mg/L (ATEi)	
2,2'-iminodiethylamine CAS: 111-40-0	1620 mg/kg (ATEi)		Rat
		1045 mg/kg (ATEi)	Rabbit
		0.05 mg/L (ATEi)	
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine CAS: 25513-64-8	910 mg/kg (ATEi)		Rat
		>5000 mg/kg	
		>20 mg/L	

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SECTION 11: TOXICOLOGICAL INFORMATION (continued)

Identification	Acute toxicity		Genus
	LD50 oral	LD50 dermal	
2,4,6-tris(dimethylaminomethyl)phenol CAS: 90-72-2	1200 mg/kg (ATEi)	>5000 mg/kg	Rat
	>20 mg/L		

SECTION 12: ECOLOGICAL INFORMATION

The experimental information related to the eco-toxicological properties of the product itself is not available

Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

12.1 Ecotoxicity (aquatic and terrestrial, where available):

Acute toxicity:

Identification	Concentration		Species	Genus
	LC50	EC50		
2,2'-iminodiethylamine CAS: 111-40-0	430 mg/L (96 h)	16 mg/L (48 h)	Poecilia reticulata	Fish
	187 mg/L (72 h)		Daphnia magna	Crustacean
			Selenastrum capricornutum	Algae
benzyl alcohol CAS: 100-51-6	646 mg/L (48 h)	400 mg/L (24 h)	Leuciscus idus	Fish
	79 mg/L (3 h)		Daphnia magna	Crustacean
			Scenedesmus subspicatus	Algae
m-phenylenebis(methylamine) CAS: 1477-55-0	88 mg/L (96 h)	15 mg/L (48 h)	Oryzias latipes	Fish
	20 mg/L (72 h)		Daphnia magna	Crustacean
			Selenastrum capricornutum	Algae
2,4,6-tris(dimethylaminomethyl)phenol CAS: 90-72-2	345 mg/L (96 h)	Not applicable (N/A)	QSAR	Fish
		Not applicable (N/A)		
		Not applicable (N/A)		

Chronic toxicity:

Identification	Concentration		Species	Genus
	NOEC	EC50		
2,2'-iminodiethylamine CAS: 111-40-0	10 mg/L	5.6 mg/L	Gasterosteus aculeatus	Fish
			Daphnia magna	Crustacean
benzyl alcohol CAS: 100-51-6	48.897 mg/L	51 mg/L	N/A	Fish
			Daphnia magna	Crustacean
m-phenylenebis(methylamine) CAS: 1477-55-0	Not applicable (N/A)	4.7 mg/L		
			Daphnia magna	Crustacean
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine CAS: 25513-64-8	10.9 mg/L	1.02 mg/L	Danio rerio	Fish
			Daphnia magna	Crustacean

12.2 Persistence and degradability:

Substance-specific information:

Identification	Degradability		Biodegradability	
	BOD5	COD	Concentration	Period
2,2'-iminodiethylamine CAS: 111-40-0	Not applicable (N/A)	Not applicable (N/A)	10 mg/L	21 days
			% Biodegradable	87 %
benzyl alcohol CAS: 100-51-6	Not applicable (N/A)	Not applicable (N/A)	100 mg/L	14 days
			% Biodegradable	94 %
m-phenylenebis(methylamine) CAS: 1477-55-0	Not applicable (N/A)	Not applicable (N/A)	14 mg/L	28 days
			% Biodegradable	49 %

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SECTION 12: ECOLOGICAL INFORMATION (continued)

Identification	Degradability		Biodegradability	
	2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine CAS: 25513-64-8	BOD5	Not applicable (N/A)	Concentration
	COD	Not applicable (N/A)	Period	28 days
	BOD5/COD	Not applicable (N/A)	% Biodegradable	7 %

12.3 Bioaccumulative potential:

Substance-specific information:

Identification	Bioaccumulation potential	
	2,2'-iminodiethylamine CAS: 111-40-0	BCF
	Pow Log	-1.3
	Potential	Low
benzyl alcohol CAS: 100-51-6	BCF	0
	Pow Log	1.1
	Potential	Low
m-phenylenebis(methylamine) CAS: 1477-55-0	BCF	3
	Pow Log	0.18
	Potential	Low
2,4,6-tris(dimethylaminomethyl)phenol CAS: 90-72-2	BCF	3
	Pow Log	0.77
	Potential	Low

12.4 Mobility in soil:

Identification	Absorption/desorption		Volatility	
	2,2'-iminodiethylamine CAS: 111-40-0	Koc	Not applicable (N/A)	Henry
	Conclusion	Not applicable (N/A)	Dry soil	Not applicable (N/A)
	Surface tension	4.164E-2 N/m (77 °F)	Moist soil	Not applicable (N/A)
benzyl alcohol CAS: 100-51-6	Koc	Not applicable (N/A)	Henry	Not applicable (N/A)
	Conclusion	Not applicable (N/A)	Dry soil	Not applicable (N/A)
	Surface tension	3.679E-2 N/m (77 °F)	Moist soil	Not applicable (N/A)
m-phenylenebis(methylamine) CAS: 1477-55-0	Koc	1300	Henry	Not applicable (N/A)
	Conclusion	Low	Dry soil	Not applicable (N/A)
	Surface tension	Not applicable (N/A)	Moist soil	Not applicable (N/A)
2,4,6-tris(dimethylaminomethyl)phenol CAS: 90-72-2	Koc	15130	Henry	9.312E-12 Pa·m ³ /mol
	Conclusion	Immobile	Dry soil	No
	Surface tension	Not applicable (N/A)	Moist soil	No

Insoluble in water

12.5 Results of PBT and vPvB assessment:

Non-applicable

12.6 Other adverse effects:

Not described

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Disposal methods:

The next characteristic per RCRA could apply to the unused product if it becomes a waste material: Corrosivity. The next EPA hazardous waste number could apply: D002.

IT IS THE RESPONSIBILITY OF THE WASTE GENERATOR TO EVALUATE WHETHER HIS WASTES ARE HAZARDOUS BY CHARACTERISTICS OR LISTING.

Waste management (disposal and evaluation):

Follow RCRA framework and EPA regulation for to ensure that hazardous waste is managed safely and properly. Waste should not be disposed of to drains. Remind, It is the responsibility of the waste generator to evaluate whether his wastes are hazardous by characteristics or listing. See section 6 for further information about Accidental release measures.

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SECTION 13: DISPOSAL CONSIDERATIONS (continued)

Regulations related to waste management:

Legislation related to waste management:

40 CFR Solid Wastes - Part 239 through 282.

State regulatory requirements for generators may be more stringent than those in the federal program. Be sure to check the state's policies.

SECTION 14: TRANSPORT INFORMATION

Other information:

Labeling and packaging requirements may vary with pack and load size. Please refer to the current transport regulations.

Transport of dangerous goods by land:

With regard to 49 CFR on the Transport of Dangerous Goods:



- 14.1 **UN number:** UN3259
- 14.2 **UN proper shipping name:** POLYAMINES, SOLID, CORROSIVE, N.O.S. (2,2'-iminodiethylamine)
- 14.3 **Transport hazard class(es):** 8
- Labels: 8
- 14.4 **Packing group, if applicable:** II
- 14.5 **Marine pollutant:** No
- 14.6 **Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises**

Physico-Chemical properties: see section 9

Limited quantities: 1 kg

- 14.7 **Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code):** Not applicable (N/A)

Transport of dangerous goods by sea:

With regard to IMDG 41-22:



- 14.1 **UN number:** UN3259
- 14.2 **UN proper shipping name:** POLYAMINES, SOLID, CORROSIVE, N.O.S. (2,2'-iminodiethylamine)
- 14.3 **Transport hazard class(es):** 8
- Labels: 8
- 14.4 **Packing group, if applicable:** II
- 14.5 **Marine pollutant:** No
- 14.6 **Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises**

Special regulations: 274

EmS Codes: F-A, S-B

Physico-Chemical properties: see section 9

Limited quantities: 0

Segregation group: SGG18

- 14.7 **Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code):** Not applicable (N/A)

Transport of dangerous goods by air:

With regard to IATA/ICAO 2024:

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SECTION 14: TRANSPORT INFORMATION (continued)



- 14.1 UN number:** UN3259
- 14.2 UN proper shipping name:** POLYAMINES, SOLID, CORROSIVE, N.O.S. (2,2'-iminodiethylamine)
- 14.3 Transport hazard class(es):** 8
Labels: 8
- 14.4 Packing group, if applicable:** II
- 14.5 Marine pollutant:** No
- 14.6 Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises**
- Physico-Chemical properties: see section 9
- 14.7 Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code):** Not applicable (N/A)

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations specific for the product in question:

- CALIFORNIA LABOR CODE - The Hazardous Substances List: 2,2'-iminodiethylamine (111-40-0) ; m-phenylenebis(methylamine) (1477-55-0) ; 2,4,6-tris(dimethylaminomethyl)phenol (90-72-2)
- California Proposition 65 (the Safe Drinking Water and Toxic Enforcement Act of 1986) - Birth defects or other reproductive harm: Not applicable (N/A)
- California Proposition 65 (the Safe Drinking Water and Toxic Enforcement Act of 1986) - Cancer: Not applicable (N/A)
- CANADA-Domestic Substances List (DSL): 2,2'-iminodiethylamine (111-40-0) ; benzyl alcohol (100-51-6) ; m-phenylenebis(methylamine) (1477-55-0) ; 2,4,6-tris(dimethylaminomethyl)phenol (90-72-2) ; 2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine (25513-64-8)
- CANADA-Non-Domestic Substances List (NDSL): Not applicable (N/A)
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) - Reportable Quantities: Not applicable (N/A)
- Hazardous Air Pollutants (Clean Air Act): Not applicable (N/A)
- Massachusetts RTK - Substance List: 2,2'-iminodiethylamine (111-40-0) ; benzyl alcohol (100-51-6) ; m-phenylenebis(methylamine) (1477-55-0)
- Minnesota - Hazardous substances ERTK: 2,2'-iminodiethylamine (111-40-0) ; m-phenylenebis(methylamine) (1477-55-0)
- New Jersey Worker and Community Right-to-Know Act: 2,2'-iminodiethylamine (111-40-0) ; m-phenylenebis(methylamine) (1477-55-0)
- New York RTK - Substance list: 2,2'-iminodiethylamine (111-40-0) ; m-phenylenebis(methylamine) (1477-55-0)
- NTP (National Toxicology Program): Not applicable (N/A)
- OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096): Not applicable (N/A)
- Pennsylvania Worker and Community Right-to-Know Law: 2,2'-iminodiethylamine (111-40-0) ; benzyl alcohol (100-51-6) ; m-phenylenebis(methylamine) (1477-55-0)
- Rhode Island - Hazardous substances RTK: Not applicable (N/A)
- The Toxic Substances Control Act (TSCA) : 2,2'-iminodiethylamine (111-40-0) ; benzyl alcohol (100-51-6) ; m-phenylenebis(methylamine) (1477-55-0) ; 2,4,6-tris(dimethylaminomethyl)phenol (90-72-2) ; 2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine (25513-64-8)
- Toxic chemical release reporting under EPCRA section 313 (40 CFR Part 372): Not applicable (N/A)

Specific provisions in terms of protecting people or the environment:

It is recommended to use the information provided in this safety data sheet as a foundation for conducting workplace-specific risk assessments. These assessments will help establish the appropriate risk prevention measures for handling, using, storing, and disposing of this product.

Other legislation:

Take into consideration other applicable federal, state, and local laws and local regulations.

SECTION 16: OTHER INFORMATION

Legislation related to safety data sheets:

This safety data sheet has been designed in accordance with Appendix d to §1910.1200 - Safety data sheets

Texts of the legislative phrases mentioned in section 2:

H314: Causes severe skin burns and eye damage.

H318: Causes serious eye damage.

H317: May cause an allergic skin reaction.

Advice related to training:

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SECTION 16: OTHER INFORMATION (continued)

According to 29 CFR 1910.1200, training on chemical hazards is necessary for employees using this product. This training will facilitate their understanding and interpretation of the safety data sheet, as well as the product label.

Principal bibliographical sources:

Occupational Safety & Health Administration (OSHA).

Abbreviations and acronyms:

IMDG: International maritime dangerous goods code

IATA: International Air Transport Association

ICAO: International Civil Aviation Organisation

COD: Chemical Oxygen Demand

BOD5: 5-day biochemical oxygen demand

BCF: Bioconcentration factor

LD50: Lethal Dose 50

CL50: Lethal Concentration 50

EC50: Effective concentration 50

Log-POW: Octanol-water partition coefficient

Koc: Partition coefficient of organic carbon

IARC: International Agency for Research on Cancer

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END OF SAFETY DATA SHEET