Norbrook Laboratories Ltd - Flunixin Injection - S - ANADA 200-476 60644

SECTION 1: IDENTIFICATION

1.1 Product identifier: Norbrook Laboratories Ltd - Flunixin Injection - S - ANADA 200-476 60644

Other means of identification:

Non-applicable

1.2 Recommended use of the chemical and restrictions on use:

Relevant uses (Consumer use): Veterinary Pharmaceutical Product
Relevant uses (Professional users): Veterinary Pharmaceutical Product
Relevant uses (Industrial user): Veterinary Pharmaceutical Product
Uses advised against: All uses not specified in this section or in section 7.3

1.3 Name, U.S. address, and U.S. telephone number of the chemical manufacturer, importer, or other responsible party:

Norbrook Laboratories Ltd
Carnbane Industrial Estate
BT35 6QQ Newry - Northern Ireland
Phone: +44 (0)28 3026 4435 - Fax: +44 (0)28 3026 5060
http://www.norbrook.com

Norbrook, Inc.
9733 Loiret Blvd
Lenexa, KS 66219

1.4 Emergency phone number: +44 (0)28 3026 4435 **USA Telephone Number 913-599-5777**

SECTION 2: HAZARD(S) IDENTIFICATION

2.1 Classification of the substance or mixture:

29 CFR 1910.1200:

Classification of the chemical in accordance with paragraph (d)(1)(i) of §1910.1200
Carc. 2: Carcinogenicity, Category 2, H351
STOT RE 1: Specific target organ toxicity, repeated exposure, Category 1, H372

2.2 Label elements:

29 CFR 1910.1200:

Danger

Hazard statements:

Carc. 2: H351 - Suspected of causing cancer.
STOT RE 1: H372 - Causes damage to organs through prolonged or repeated exposure.

Precautionary statements:

P101: If medical advice is needed, have product container or label at hand.
P102: Keep out of reach of children.
P201: Obtain special instructions before use.
P260: Do not breathe vapours
P264: Wash thoroughly after use.
P308+P313: IF exposed or concerned: Get medical advice/attention.
P314: Get medical advice/attention if you feel unwell.
P501: Dispose of the contents/containers according to the local, state and federal regulations.

Substances that contribute to the classification

1-deoxy-1-(methylamino)-D-glucitol 2-[2-methyl-3-(perfluoromethyl)anilino]nicotinate (CAS: 42461-84-7); 2,2´-iminodiethanol (CAS: 111-42-2)

Additional labeling:

WARNING

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SECTION 2: HAZARD(S) IDENTIFICATION (continued)

Federal Hazardous Substances Act (FHSA) >> Chronic toxicity (Carcinogens)
May cause cancer. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.
Keep out of reach of children. Store locked up.
FIRST AID TREATMENT
IF exposed or concerned: Get medical advice/attention.
Contains : 1-deoxy-1-(methylamino)-D-glucitol 2-[2-methyl-3-(perfluoromethyl)anilino]nicotinate (CAS 42461-84-7); 2,2´-iminodiethanol (CAS 111-42-2).
This product can expose you to chemicals including 2,2´-iminodiethanol, which is [are] known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

2.3 Hazards not otherwise classified (HNOC):

Non-applicable

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances:

Non-applicable

3.2 Mixtures:

Chemical description: Aqueous emulsion

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/Classification	Concentration
CAS: 42461-84-7	**1-deoxy-1-(methylamino)-D-glucitol 2-[2-methyl-3-(perfluoromethyl)anilino]nicotinate** Acute Tox. 3: H301+H331; Eye Irrit. 2A: H319; STOT RE 1: H372; STOT SE 3: H335 - Danger 	**5%**
CAS: 108-95-2	**phenol** Acute Tox. 3: H301+H311+H331; Flam. Liq. 4: H227; Muta. 2: H341; Skin Corr. 1B: H314; STOT RE 2: H373 - Danger 	**Proprietary**
CAS: 111-42-2	**2,2´-iminodiethanol** Acute Tox. 4: H302; Carc. 2: H351; Eye Dam. 1: H318; Skin Irrit. 2: H315; STOT RE 2: H373 - Danger 	**Proprietary**

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

Other information:

Identification	Specific concentration limit
phenol CAS: 108-95-2	% (w/w) >=3: Skin Corr. 1B - H314 1<= % (w/w) <3: Skin Irrit. 2 - H315 % (w/w) >=1: Eye Irrit. 2 - H319

SECTION 4: FIRST-AID MEASURES

4.1 Description of necessary measures:

The symptoms resulting from intoxication can appear after exposure, therefore, in case of doubt, seek medical attention for direct exposure to the chemical product or persistent discomfort, showing the SDS of this product.

By inhalation:

Remove the person affected from the area of exposure, provide with fresh air and keep at rest. In serious cases such as cardiorespiratory failure, artificial resuscitation techniques will be necessary (mouth to mouth resuscitation, cardiac massage, oxygen supply, etc.) requiring immediate medical assistance.

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 water for at least 15 minutes. 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.

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SECTION 4: FIRST-AID MEASURES (continued)

By ingestion/aspiration:

Do not induce vomiting, but if it does happen keep the head down to avoid aspiration. Keep the person affected at rest. Rinse out the mouth and throat, as they may have been affected during ingestion.

4.2 Most important symptoms/effects, acute and delayed:

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

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

Non-applicable

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 Self Contained Breathing Apparatus. 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:

Isolate leaks provided that there is no additional risk for the people performing this task. Personal protection equipment must be used against potential contact with the spilt product (See section 8). Evacuate the area and keep out those who do not have protection.

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 reportables 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.

Prevent the entrance of product in drains, sewers or watercourses. Absorb the spill using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. Collect the product in appropriate containers and manage it according to current legislation.
Spillages in water or sea:
Small spillages:
Contain spillage using barriers or similar equipment. Use suitable absorbents for collection and treat the waste in accordance with current regulations.
Large spillages:
If possible, contain spillage in open water using barriers or similar equipment. If this is not possible, try to control its spread and collect the product with suitable mechanical means. Always consult experts before using dispersants and make sure you have the necessary approvals if they are to be used. Treat the waste according to current regulations.

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SECTION 6: ACCIDENTAL RELEASE MEASURES (continued)

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

Product is non-flammable under normal conditions of storage, manipulation and use. It is recommended to transfer at slow speeds to avoid the generation of electrostatic charges that can affect flammable products. Consult section 10 for information on conditions and materials that should be avoided.

C.- Technical recommendations on general occupational hygiene

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

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

Maximum Temp.: 86 ºF

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 assessed in the workplace:

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

Identification	Occupational exposure limits		
phenol [1]	8-hour TWA PEL	5 ppm	19 mg/m³
CAS: 108-95-2	Ceiling Values - TWA PEL		

US. ACGIH Threshold Limit Values (2022):

Identification	Occupational exposure limits		
phenol [1]	TLV-TWA	5 ppm	
CAS: 108-95-2	TLV-STEL		
2,2´-iminodiethanol	TLV-TWA		2 mg/m³
CAS: 111-42-2	TLV-STEL		

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

Identification	Occupational exposure limits		
phenol [1]	PEL	5 ppm	19 mg/m³
CAS: 108-95-2	STEL		
2,2´-iminodiethanol	PEL	0.46 ppm	2 mg/m³
CAS: 111-42-2	STEL		

NIOSH: Immediately Dangerous To Life or Health (IDLH) Values:

Identification	Occupational exposure limits		
phenol [1]	TWA		
CAS: 108-95-2	IDLH Value	250 ppm	

[1] Skin

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

Biological limit values:

Biological Exposure Indices (BEIs®) - ACGIH

Identification	BEIs®	Determinant	Sampling Time
phenol CAS: 108-95-2	250 mg/L	Phenol in urine	End of shift

8.2 Appropriate engineering controls:

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

Always provide effective general and, when necessary, local exhaust ventilation to maintain the ambient workplace atmosphere below the exposure limits.. For more information on Personal Protection Equipment (storage, use, cleaning, maintenance, class of protection,…) consult the information leaflet provided by the manufacturer. For additional 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 (Filter type: A)	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	NON-disposable chemical protective gloves	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

It is advised to implement additional emergency equipments in workplaces that are particularly exposed to the product or in situations where risk assessments highlight the necessity of such equipments.

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

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:

To comply with environmental protection regulations, it is recommended to prevent any spillage of the product and its container. For more detailed information, please refer to subsection 7.1.D.

40 CFR Part 59 (VOC):

V.O.C.(weight-percent): 21.22 % weight

V.O.C. at 68 ºF: 822.2 kg/m³ (822.2 g/L)

California Air Resources Board (CARB) - VOC Regulatory:

V.O.C.(weight-percent): 21.22 % weight

V.O.C. at 68 ºF: 822.2 kg/m³ (822.2 g/L)

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

V.O.C.(weight-percent): 21.22 % weight

V.O.C. at 68 ºF: 822.2 kg/m³ (822.2 g/L)

Ozone Transport Commission (OTC) Rules - VOC Regulatory:

V.O.C.(weight-percent): 21.22 % weight

V.O.C. at 68 ºF: 822.2 kg/m³ (822.2 g/L)

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 ºF:	Liquid
Appearance:	Non-applicable *
Color:	Colorless
Odor:	Undefined
Odour threshold:	Non-applicable *

Volatility:

Boiling point at atmospheric pressure:	233 ºF
Vapour pressure at 68 ºF:	2200 Pa
Vapour pressure at 122 ºF:	11594.89 Pa (11.59 kPa)
Evaporation rate at 68 ºF:	Non-applicable *

Product description:

Density at 68 ºF:	1034.6 kg/m³
Relative density at 68 ºF:	1.035
Dynamic viscosity at 68 ºF:	Non-applicable *
Kinematic viscosity at 68 ºF:	Non-applicable *
Kinematic viscosity at 104 ºF:	Non-applicable *
Concentration:	Non-applicable *
pH:	Non-applicable *
Vapour density at 68 ºF:	Non-applicable *
Partition coefficient n-octanol/water 68 ºF:	Non-applicable *

*Non-applicable 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)

Solubility in water at 68 ºF:	Non-applicable *
Solubility properties:	Non-applicable *
Decomposition temperature:	Non-applicable *
Melting point/freezing point:	Non-applicable *
Flammability:	
Flash Point:	Non Flammable (>199.4 ºF)
Flammability (solid, gas):	Non-applicable *
Autoignition temperature:	790 ºF
Lower flammability limit:	Non-applicable *
Upper flammability limit:	Non-applicable *
Particle characteristics:	
Median equivalent diameter:	Non-applicable *

9.2 Other information:

Information with regard to physical hazard classes:

Explosive properties:	Non-applicable *
Oxidising properties:	Non-applicable *
Corrosive to metals:	Non-applicable *
Heat of combustion:	Non-applicable *
Aerosols-total percentage (by mass) of flammable components:	Non-applicable *
Other safety characteristics:	
Surface tension at 68 ºF:	Non-applicable *
Refraction index:	Non-applicable *

*Non-applicable 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	Precaution	Precaution	Not applicable

10.5 Incompatible materials:

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

10.6 Hazardous decomposition products:

See subsection 10.3, 10.4 and 10.5 to find out the specific decomposition products. Depending on the decomposition conditions, complex mixtures of chemical substances can be released: carbon dioxide (CO_2), carbon monoxide and other organic compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

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SECTION 11: TOXICOLOGICAL INFORMATION (continued)

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

Dangerous health implications:

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

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

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

- Contact with the skin: Based on available data, the classification criteria are not met. However, it contains substances classified as hazardous for skin contact. For more information see section 3.
- Contact with the eyes: Based on available data, the classification criteria are not met. However, it does contain substances classified as hazardous for this effect. For more information see section 3.

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

- Carcinogenicity: Exposure to this product can cause cancer. For more specific information on the possible health effects see section 2.
  IARC: phenol (3); 2,2´-iminodiethanol (2B)
- Mutagenicity: Based on available data, the classification criteria are not met, however, it contains substances classified as dangerous with mutagenic effects. 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: 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.

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: Serious health effects in the case of prolonged consumption, including death, serious functional disorders or morphological changes of toxicological importance.
- 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:

Non-applicable

Specific toxicology information on the substances:

Identification	Acute toxicity		Genus
phenol	LD50 oral	100 mg/kg	Rat
CAS: 108-95-2	LD50 dermal	630 mg/kg	Rabbit
	LC50 inhalation dust	0.5 mg/L	

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SECTION 11: TOXICOLOGICAL INFORMATION (continued)

Identification	Acute toxicity		Genus
1-deoxy-1-(methylamino)-D-glucitol 2-[2-methyl-3-(perfluoromethyl)anilino]nicotinate	LD50 oral	157 mg/kg	Rat
CAS: 42461-84-7	LD50 dermal	>5000 mg/kg	
	LC50 inhalation vapour	3 mg/L	
2,2´-iminodiethanol	LD50 oral	710 mg/kg	Rat
CAS: 111-42-2	LD50 dermal	12200 mg/kg	Rabbit
	LC50 inhalation dust	>5 mg/L	

Acute Toxicity Estimate (ATE mix):

ATE mix		Ingredient(s) of unknown toxicity
Oral	2713.92 mg/kg (Calculation method)	0 %
Dermal	126000 mg/kg (Calculation method)	0 %
LC50 inhalation vapour	54.55 mg/L (4 h) (Calculation method)	0 %

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
1-deoxy-1-(methylamino)-D-glucitol 2-[2-methyl-3-(perfluoromethyl)anilino]nicotinate	LC50	9.2 mg/L (96 h)	Salmo gairdneri	Fish
CAS: 42461-84-7	EC50	25 mg/L (48 h)	Daphnia magna	Crustacean
	EC50	78 mg/L (72 h)	N/A	Algae
phenol	LC50	14 mg/L (96 h)	Leuciscus idus	Fish
CAS: 108-95-2	EC50	12 mg/L (24 h)	Daphnia magna	Crustacean
	EC50	370 mg/L (96 h)	Chlorella vulgaris	Algae
2,2´-iminodiethanol	LC50	800 mg/L (24 h)	Carassius auratus	Fish
CAS: 111-42-2	EC50	180 mg/L (24 h)	Daphnia magna	Crustacean
	EC50	75 mg/L (72 h)	Scenedesmus subspicatus	Algae

Chronic toxicity:

Identification	Concentration		Species	Genus
phenol	NOEC	0.077 mg/L	Cirrhina mrigala	Fish
CAS: 108-95-2	NOEC	0.16 mg/L	Daphnia magna	Crustacean
2,2´-iminodiethanol	NOEC	1 mg/L	N/A	Fish
CAS: 111-42-2	NOEC	0.78 mg/L	Daphnia magna	Crustacean

12.2 Persistence and degradability:

Substance-specific information:

Identification	Degradability		Biodegradability	
phenol	BOD5	1.68 g O2/g	Concentration	100 mg/L
CAS: 108-95-2	COD	2.33 g O2/g	Period	14 days
	BOD5/COD	0.72	% Biodegradable	85 %
2,2´-iminodiethanol	BOD5	0.03 g O2/g	Concentration	100 mg/L
CAS: 111-42-2	COD	1.52 g O2/g	Period	21 days
	BOD5/COD	0.02	% Biodegradable	54 %

12.3 Bioaccumulative potential:

Substance-specific information:

Identification	Bioaccumulation potential	
phenol	BCF	17
CAS: 108-95-2	Pow Log	1.48
	Potential	Low

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SECTION 12: ECOLOGICAL INFORMATION (continued)

Identification	Bioaccumulation potential	
2,2´-iminodiethanol	BCF	1
CAS: 111-42-2	Pow Log	-1.43
	Potential	Low

12.4 Mobility in soil:

Identification	Absorption/desorption		Volatility	
phenol	Koc	50	Henry	2.2E-2 Pa·m³/mol
CAS: 108-95-2	Conclusion	Very High	Dry soil	Yes
	Surface tension	1.847E-2 N/m (447.82 ºF)	Moist soil	Yes
2,2´-iminodiethanol	Koc	Non-applicable	Henry	Non-applicable
CAS: 111-42-2	Conclusion	Non-applicable	Dry soil	Non-applicable
	Surface tension	3.4E-2 N/m (299.21 ºF)	Moist soil	Non-applicable

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:

Wastes generated by normal household activities (e.g., routine house and yard maintenance) are excluded from the definition of hazardous waste (Title 40 of the Code of Federal Regulations Part 261.4)

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.

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

This product is not regulated for transport.

SECTION 15: REGULATORY INFORMATION

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

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SECTION 15: REGULATORY INFORMATION (continued)

- CALIFORNIA LABOR CODE - The Hazardous Substances List: *phenol (108-95-2)* ; *2,2´-iminodiethanol (111-42-2)*
- California Proposition 65 (the Safe Drinking Water and Toxic Enforcement Act of 1986) - Birth defects or other reproductive harm: Non-applicable
- California Proposition 65 (the Safe Drinking Water and Toxic Enforcement Act of 1986) - Cancer: *2,2´-iminodiethanol (111-42-2)*
- CANADA-Domestic Substances List (DSL): *phenol (108-95-2)* ; *2,2´-iminodiethanol (111-42-2)*
- CANADA-Non-Domestic Substances List (NDSL): Non-applicable
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) - Reportable Quantities: *phenol (108-95-2) - U188* ; *2,2´-iminodiethanol (111-42-2) - 100 lb*
- Hazardous Air Pollutants (Clean Air Act): *phenol (108-95-2)* ; *2,2´-iminodiethanol (111-42-2)*
- Massachusetts RTK - Substance List: *phenol (108-95-2)* ; *2,2´-iminodiethanol (111-42-2)*
- Minnesota - Hazardous substances ERTK: *phenol (108-95-2)* ; *2,2´-iminodiethanol (111-42-2)*
- New Jersey Worker and Community Right-to-Know Act: *phenol (108-95-2)* ; *2,2´-iminodiethanol (111-42-2)*
- New York RTK - Substance list: *phenol (108-95-2)* ; *2,2´-iminodiethanol (111-42-2)*
- NTP (National Toxicology Program): Non-applicable
- OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096): Non-applicable
- Pennsylvania Worker and Community Right-to-Know Law: Non-applicable
- Protective Action Criteria (PAC) with AEGLs, ERPGs, & TEELs: *phenol (108-95-2)* ; *2,2´-iminodiethanol (111-42-2)*
- Rhode Island - Hazardous substances RTK: *phenol (108-95-2)* ; *2,2´-iminodiethanol (111-42-2)*
- SB-258 Cleaning Product Right to Know Act : *phenol (108-95-2)* ; *2,2´-iminodiethanol (111-42-2)*
- The Toxic Substances Control Act (TSCA) : *phenol (108-95-2)* ; *2,2´-iminodiethanol (111-42-2)*
- Toxic chemical release reporting under EPCRA section 313 (40 CFR Part 372): *phenol (108-95-2)* ; *2,2´-iminodiethanol (111-42-2)*

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:

H372: Causes damage to organs through prolonged or repeated exposure.
H351: Suspected of causing cancer.

Texts of the legislative phrases mentioned in section 3:

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3

29 CFR 1910.1200:

Acute Tox. 3: H301+H311+H331 - Toxic if swallowed, in contact with skin or if inhaled.
Acute Tox. 3: H301+H331 - Toxic if swallowed or if inhaled.
Acute Tox. 4: H302 - Harmful if swallowed.
Carc. 2: H351 - Suspected of causing cancer.
Eye Dam. 1: H318 - Causes serious eye damage.
Eye Irrit. 2A: H319 - Causes serious eye irritation.
Flam. Liq. 4: H227 - Combustible liquid.
Muta. 2: H341 - Suspected of causing genetic defects.
Skin Corr. 1B: H314 - Causes severe skin burns and eye damage.
Skin Irrit. 2: H315 - Causes skin irritation.
STOT RE 1: H372 - Causes damage to organs through prolonged or repeated exposure.
STOT RE 2: H373 - May cause damage to organs through prolonged or repeated exposure.
STOT SE 3: H335 - May cause respiratory irritation.

Advice related to training:

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:

- CONTINUED ON NEXT PAGE -

SECTION 16: OTHER INFORMATION (continued)

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