

Material Safety Data Sheet

Flux WS 488



1. Product and company identification

Product name	: Flux WS 488
Material uses	: Industrial applications: Electronics industry
Manufacturer	: AIM 9100 Henri Bourassa East Montreal, QC H1E 2S4 (514) 494-2000 In the United States: AIM 25 Kenney Drive Cranston, RI 02920 (800) CALL-AIM
Validation date	: 10/19/2016
Print date	: 10/19/2016
<u>In case of emergency</u>	: INFOTRAC North America: (800) 535-5053 International: (352) 323-3500
Product type	: Solid. [Paste.]

2. Hazards identification

Emergency overview

Physical state	: Solid. [Paste.]
Color	: Amber.
Odor	: Terpene [Slight]
Signal word	: DANGER!
Hazard statements	: CAUSES SEVERE SKIN BURNS. CAUSES RESPIRATORY TRACT AND EYE BURNS. HARMFUL IF INHALED. MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.
Precautionary measures	: Do not ingest. Use only with adequate ventilation. Do not get in eyes. Do not get on skin. Do not eat, drink or smoke when using this product. Avoid prolonged contact with eyes, skin and clothing. Keep container tightly closed. Wash thoroughly after handling.
OSHA/HCS status	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Potential acute health effects

Inhalation	: Toxic by inhalation. Corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Ingestion	: Harmful if swallowed. May cause burns to mouth, throat and stomach.
Skin	: Severely corrosive to the skin. Causes severe burns. Harmful in contact with skin.
Eyes	: Corrosive to eyes. Causes burns.

Potential chronic health effects

Chronic effects	: Contains material that can cause target organ damage.
Carcinogenicity	: No known significant effects or critical hazards.
Mutagenicity	: No known significant effects or critical hazards.

2. Hazards identification

- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.
- Target organs** : Contains material which causes damage to the following organs: eye, lens or cornea, thyroid.
Contains material which may cause damage to the following organs: lungs, upper respiratory tract, skin.

Over-exposure signs/symptoms

- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
- Ingestion** : Adverse symptoms may include the following:
stomach pains
- Skin** : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
- Eyes** : Adverse symptoms may include the following:
pain
watering
redness

- Medical conditions aggravated by over-exposure** : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (Section 11)

3. Composition/information on ingredients

United States

Name	CAS number	%
2,2-bis(hydroxymethyl)propionic acid	4767-03-7	0.1 - 10
rosin	8050-09-7	0.1 - 10
2,3-dibromo-2-butene-1,4-diol	3234-02-4	0.1 - 10
Poly(oxy-1,2-ethanediyl), α -hydro- ω -hydroxy- Ethane-1,2-diol, ethoxylated	25322-68-3	0.1 - 10

Canada

Name	CAS number	%
2,2-bis(hydroxymethyl)propionic acid	4767-03-7	0.1 - 10
rosin	8050-09-7	0.1 - 10
2,3-dibromo-2-butene-1,4-diol	3234-02-4	0.1 - 10
Poly(oxy-1,2-ethanediyl), α -hydro- ω -hydroxy- Ethane-1,2-diol, ethoxylated	25322-68-3	0.1 - 10

Mexico

Name	CAS number	UN number	%	IDLH	Classification			
					H	F	R	Special

3. Composition/information on ingredients

Poly(oxy-1,2-ethanediyl), α -hydro- ω -hydroxy- Ethane-1,2-diol, ethoxylated	25322-68-3	Not available.	0.1 - 10	-	1	1	0	-
2,2-bis(hydroxymethyl) propionic acid	4767-03-7	Not regulated.	0.1 - 10	-	2	0	0	-
bis(2-(2-methoxyethoxy)ethyl) ether	143-24-8	Not available.	0.1 - 10	-	1	1	0	-
rosin	8050-09-7	Not available.	0.1 - 10	-	1	0	0	-

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
- Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

5. Fire-fighting measures

- Flammability of the product** : No specific fire or explosion hazard.
- Extinguishing media**
- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable** : None known.
- Special exposure hazards** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
halogenated compounds
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

- Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Methods for cleaning up**
- Small spill** : Move containers from spill area. Avoid dust generation. Do not dry sweep. Place spilled material in a designated, labeled waste container. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. Handling and storage

- Handling** : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not get in eyes or on skin or clothing. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

United States

Ingredient	Exposure limits
rosin	ACGIH TLV (United States, 3/2016). Skin sensitizer. Inhalation sensitizer.
Poly(oxy-1,2-ethanediyl), α -hydro- ω -hydroxy-Ethane-1,2-diol, ethoxylated	AIHA WEEL (United States, 10/2011). TWA: 10 mg/m ³ 8 hours. Form: Aerosol

Canada

8. Exposure controls/personal protection

<u>Occupational exposure limits</u>		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredient	List name	ppm	mg/ m ³	Other	ppm	mg/ m ³	Other	ppm	mg/ m ³	Other	Notations
rosin rosin, formaldehyde 2,2',2''-nitrilotriethanol	US ACGIH 3/2016	-	-	-	-	-	-	-	-	-	[3][4]
	QC 1/2014	-	0.1	-	-	-	-	-	-	-	[3]
	US ACGIH 3/2016	-	5	-	-	-	-	-	-	-	
	AB 4/2009	-	5	-	-	-	-	-	-	-	[3]
	BC 5/2015	-	5	-	-	-	-	-	-	-	
	ON 7/2015	0.5	3.1	-	-	-	-	-	-	-	
	QC 1/2014	-	5	-	-	-	-	-	-	-	[3]
Poly(oxy-1,2-ethanediyl), α -hydro- ω -hydroxy- Ethane-1,2-diol, ethoxylated	SK 7/2013	-	5	-	-	10	-	-	-	-	
	US AIHA 10/2011	-	10	-	-	-	-	-	-	-	[a]

[3]Skin sensitization [4]Respiratory sensitization

Form: [a]Aerosol

Mexico

Occupational exposure limits

Ingredient	Exposure limits
rosin	ACGIH TLV (United States, 3/2016). Skin sensitizer. Inhalation sensitizer. NOM-010-STPS (Mexico, 4/2016). LMPE-PPT: 5 mg/m ³ 8 hours.
2,2',2''-nitrilotriethanol	

Consult local authorities for acceptable exposure limits.

- Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.
- Engineering measures** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Personal protection**
- Respiratory** : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

8. Exposure controls/personal protection

- Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. Physical and chemical properties

- Physical state** : Solid. [Paste.]
- Flash point** : [Product does not sustain combustion.]
- Color** : Amber.
- Odor** : Terpene [Slight]
- Viscosity** : Not available
- Solubility** : Easily soluble in the following materials: hot water.
Soluble in the following materials: cold water.

Aerosol product

10. Stability and reactivity

- Chemical stability** : The product is stable.
- Conditions to avoid** : No specific data.
- Incompatible materials** : No specific data.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

11. Toxicological information

United States

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Terpineol	LD50 Oral	Rat	4300 mg/kg	-
rosin	LD50 Oral	Rat	7600 mg/kg	-
1-aminopropan-2-ol	LD50 Oral	Rat	1715 mg/kg	-
	LD50 Oral	Rat	1715 mg/kg	-
2,2',2"-nitrilotriethanol	LD50 Oral	Rat	7.39 g/kg	-
Amines, tallow alkyl, ethoxylated	LD50 Oral	Rat	500 mg/kg	-

Conclusion/Summary : No additional remark.

Chronic toxicity

Conclusion/Summary : Not available.

Irritation/Corrosion

11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
2,2',2''-nitritotriethanol	Eyes - Severe irritant	Rabbit	-	970 Micrograms	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Moderate irritant	Rabbit	-	485 milligrams	-
	Eyes - Mild irritant	Rabbit	-	10 milligrams	-
	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Skin - Mild irritant	Human	-	72 hours 15 milligrams	-
	Skin - Severe irritant	Mouse	-	50 Percent	-
	Skin - Mild irritant	Rabbit	-	24 hours 560 milligrams	-
	Eyes - Severe irritant	Rabbit	-	24 hours 100 microliters	-
	Poly(oxy-1,2-ethanediyl), α -hydro- ω -hydroxy- Ethane-1,2-diol, ethoxylated	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams
Eyes - Mild irritant		Rabbit	-	500 milligrams	-
Skin - Mild irritant		Rabbit	-	24 hours 500 milligrams	-
Skin - Mild irritant		Rabbit	-	500 milligrams	-

Conclusion/Summary : Not available.

Sensitizer

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Repeated and prolonged contact may cause an allergic skin reaction (sensitization) in susceptible individuals. None have been reported.

Classification

Product/ingredient name	OSHA	IARC	NTP	ACGIH	EPA	NIOSH
2,2',2''-nitritotriethanol	-	3	-	-	-	-

Mutagenicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Canada

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
rosin	LD50 Oral	Rat	7600 mg/kg	-
	LD50 Oral	Rat	1715 mg/kg	-
	LD50 Oral	Rat	2750 mg/kg	-
2,2',2''-nitritotriethanol	LD50 Oral	Rat	7.39 g/kg	-

Conclusion/Summary : No additional remark.

11. Toxicological information

Chronic toxicity

Conclusion/Summary : Not available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
2,2',2"-nitrilotriethanol	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Severe irritant	Rabbit	-	970 Micrograms	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Moderate irritant	Rabbit	-	485 milligrams	-
	Eyes - Mild irritant	Rabbit	-	10 milligrams	-
	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Skin - Mild irritant	Human	-	72 hours 15 milligrams	-
	Skin - Severe irritant	Mouse	-	Intermittent 50 Percent	-
	Skin - Mild irritant	Rabbit	-	24 hours 560 milligrams	-
	Eyes - Severe irritant	Rabbit	-	24 hours 100 microliters	-
Poly(oxy-1,2-ethanediyl), α -hydro- ω -hydroxy- Ethane-1,2-diol, ethoxylated	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Mild irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-

Conclusion/Summary : Not available.

Sensitizer

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Repeated and prolonged contact may cause an allergic skin reaction (sensitization) in susceptible individuals. None have been reported.

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
2,2',2"-nitrilotriethanol	-	3	-	-	-	-

Mutagenicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Mexico

Acute toxicity

11. Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
Amines, N-tallow alkyltrimethylenedi-, ethoxylated	LD50 Oral	Rat	>500 mg/kg	-
rosin	LD50 Oral	Rat	7600 mg/kg	-
2,2',2''-nitrilotriethanol	LD50 Oral	Rat	7.39 g/kg	-

Conclusion/Summary : No additional remark.

Chronic toxicity

Conclusion/Summary : Not available.

Irritation/Corrosion

Product/ingredient name	Result	Score	Score	Exposure	Observation
2,2',2''-nitrilotriethanol	Eyes - Mild irritant	Rabbit	-	10 milligrams	-
	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Skin - Mild irritant	Human	-	72 hours 15 milligrams Intermittent	-
	Skin - Severe irritant	Mouse	-	50 Percent	-
Poly(oxy-1,2-ethanediyl), α -hydro- ω -hydroxy- Ethane-1,2-diol, ethoxylated	Skin - Mild irritant	Rabbit	-	24 hours 560 milligrams	-
	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Mild irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-

Conclusion/Summary : Not available.

Sensitizer

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Repeated and prolonged contact may cause an allergic skin reaction (sensitization) in susceptible individuals. None have been reported.

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
2,2',2''-nitrilotriethanol	-	3	-	-	-	-

Mutagenicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

11. Toxicological information

Other information : To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

12. Ecological information

Ecotoxicity : No known significant effects or critical hazards.

United States

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
2,2',2''-nitrilotriethanol	Acute EC50 609.98 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 11800000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 16000 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Acute LC50 >1000000 µg/l Fresh water	Fish - Salmo salar - Parr	96 hours
Poly(oxy-1,2-ethanediyl), α -hydro- ω -hydroxy- Ethane-1,2-diol, ethoxylated			

Conclusion/Summary : Not available.

Persistence/degradability

Conclusion/Summary : Not available.

Canada

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
2,2',2''-nitrilotriethanol	Acute EC50 609.98 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 11800000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 16000 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Acute LC50 2.6 µg/l Fresh water	Crustaceans - Thamnocephalus platyurus - Nauplii	48 hours
Amines, tallow alkyl, ethoxylated	Acute LC50 2350 µg/l Fresh water	Daphnia - Daphnia pulex	48 hours
	Acute LC50 650 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Acute LC50 >1000000 µg/l Fresh water	Fish - Salmo salar - Parr	96 hours
Poly(oxy-1,2-ethanediyl), α -hydro- ω -hydroxy- Ethane-1,2-diol, ethoxylated			

Conclusion/Summary : Not available.

Persistence/degradability

Conclusion/Summary : Not available.

Mexico

Aquatic ecotoxicity

12. Ecological information

Product/ingredient name	Result	Species	Exposure
2,2',2''-nitritotriethanol	Acute EC50 609.98 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
Amines, tallow alkyl, ethoxylated	Acute LC50 11800000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 16000 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Acute LC50 2.6 µg/l Fresh water	Crustaceans - Thamnocephalus platyurus - Nauplii	48 hours
Poly(oxy-1,2-ethanediyl), α -hydro- ω -hydroxy- Ethane-1,2-diol, ethoxylated	Acute LC50 2350 µg/l Fresh water	Daphnia - Daphnia pulex	48 hours
	Acute LC50 650 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Acute LC50 >1000000 µg/l Fresh water	Fish - Salmo salar - Parr	96 hours

Conclusion/Summary : Not available.

Persistence/degradability

Conclusion/Summary : Not available.

Toxicity of the products of biodegradation : The products of biodegradation are as toxic as the original product.

Other adverse effects : No known significant effects or critical hazards.

13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

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

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	Not regulated.	-	-	-		-
TDG Classification	Not regulated.	-	-	-		-
Mexico Classification	Not regulated.	-	-	-		-
ADR/RID Class	Not regulated.	-	-	-		-
IMDG Class	Not regulated.	-	-	-		-

14. Transport information

IATA-DGR Class	Not regulated.	-	-	-	-
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PG* : Packing group

15. Regulatory information

United States

- HCS Classification** : Toxic material
Corrosive material
Target organ effects
- U.S. Federal regulations** : **TSCA 8(a) PAIR**: 2,2',2''-nitriлотriethanol; 2,2'-iminodiethanol
TSCA 8(a) CDR Exempt/Partial exemption: Not determined
TSCA 8(d) H and S data reporting: 2,2'-iminodiethanol: 1989
TSCA 12(b) one-time export: bis(2-(2-methoxyethoxy)ethyl) ether
Commerce control list precursor: 2,2',2''-nitriлотriethanol
Not determined.
Clean Water Act (CWA) 311: sulphuric acid

Clean Air Act Section 112 : Listed

(b) Hazardous Air Pollutants (HAPs)

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
sulphuric acid	0 - 0.1	Yes.	1000	66.3	1000	66.3

SARA 304 RQ : 2000000 lbs / 908000 kg

SARA 311/312

Classification : Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
rosin	0.1 - 10	No.	No.	No.	Yes.	Yes.
2,3-dibromo-2-butene-1,4-diol	0.1 - 10	No.	No.	No.	Yes.	No.
2,2',2''-nitriлотriethanol	0.1 - 10	No.	No.	No.	Yes.	Yes.
Amines, tallow alkyl, ethoxylated	0.1 - 10	No.	No.	No.	Yes.	No.

State regulations

15. Regulatory information

- Massachusetts** : The following components are listed: 2,2',2''-nitrioltriethanol
- New York** : None of the components are listed.
- New Jersey** : The following components are listed: 2-PROPANOL, 1-AMINO-; TRIETHANOLAMINE; ETHANOL, 2,2',2''-NITRILOTRIS-
- Pennsylvania** : The following components are listed: 2,2',2''-nitrioltriethanol; ROSIN CORE SOLDER PYROLYSIS PRODUCTS

California Prop. 65

WARNING: This product contains less than 0.1% of a chemical known to the State of California to cause cancer.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
sulphuric acid 2,2'-iminodiethanol	Yes. Yes.	No. No.	No. No.	No. No.

- United States inventory (TSCA 8b)** : Not determined.

Canada

- WHMIS (Canada)** : Class D-2A: Material causing other toxic effects (Very toxic).
Class D-2B: Material causing other toxic effects (Toxic).
Class E: Corrosive material

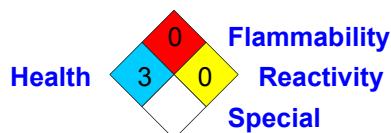
Canadian lists

- Canadian NPRI** : None of the components are listed.
- CEPA Toxic substances** : None of the components are listed.
- Canada inventory** : Not determined.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Mexico

- Classification** :



International regulations

- International lists** :
- Australia inventory (AICS):** Not determined.
 - China inventory (IECSC):** Not determined.
 - Japan inventory (ENCS):** Not determined.
 - Japan inventory (ISHL):** Not determined.
 - Korea inventory:** Not determined.
 - Malaysia Inventory (EHS Register):** Not determined.
 - New Zealand Inventory of Chemicals (NZIoC):** Not determined.
 - Philippines inventory (PICCS):** Not determined.
 - Taiwan Chemical Substances Inventory (TCSI):** Not determined.
 - Turkey inventory:** Not determined.

- Chemical Weapons Convention List Schedule I Chemicals** : Not listed

- Chemical Weapons Convention List Schedule II Chemicals** : Not listed

15. Regulatory information

Chemical Weapons Convention List Schedule III Chemicals : Listed

16. Other information

Label requirements : CAUSES SEVERE SKIN BURNS. CAUSES RESPIRATORY TRACT AND EYE BURNS. HARMFUL IF INHALED. MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.

Hazardous Material Information System (U.S.A.) :

Health	3
Flammability	0
Physical hazards	0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) :



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

References : -ACGIH, Threshold Limit Values, 1994-1995. -Canada Gazette Part II, Vol. 122, No. 2 Registration SOR/88-64 31 December, 1987 Hazardous Products Act "Ingredient Disclosure List". -CFR29, OSHA's Permissible Exposure Limits, revision July, 1993. -CFR29, part 1910.1200, Hazard Communication. -CHEMTOX database -Components' manufacturer's Material Safety Data Sheet. -CRC Handbook of chemistry and physics, 67 th edition, CRC Press inc., Boca Raton, Florida. -CSST (Comission de Santé et Sécurité au Travail), document #RT-12: Classification of Certain Chemical Substances. -IATA, Dangerous Goods Regulations, 37th edition (January 1, 1996) -NFPA, Fire Protection Guide to Chemical Hazards, 11th edition. -NIOSH, Pocket Guide to Chemical Hazards, revision June 1994. Sigma-Alrch handbook of fine chemicals, 1998 -TSCA (Toxic Substance Contral Act), Chemical Substance Inventory List, 1985.

Other special considerations : -ALL COMPONENTS WITH SUSCEPTIBLE HAZARDS THAT ARE PRESENT IN A CONCENTRATION GREATER THAN 1 % (GREATER THAN 0.1 % FOR CARCINOGENS) HAVE BEEN DISCLOSED IN THIS SAFETY DOCUMENT.

16. Other information

Date of printing : 10/19/2016

Date of issue : 10/19/2016

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Version : 0.04

Prepared by : C. Gosselin

✔ Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.