

Safety Data Sheet according to Regulation (EC) 1907/2006 (REACH)

 Revision date:
 2021-02-16

 Supercedes date:
 2020-10-12

SECTION 1: Identification of the substance/mixture and of the company/undertaking

- 1.1. Product identifier: Kalama* Benzoic Acid Technical Molten Product trade name: Company product number: **BZOHMOLTEN REACH registration number:** Not registered Substance name: Benzoic acid liquid Substance identification number: EC 200-618-2 Other means of identification: Benzenecarboxylic acid; Benzeneformic acid; Phenylcarboxylic acid; Phenylformic acid; Benzenemethanoic acid; Carboxybenzene 1.2. Relevant identified uses of the substance or mixture and uses advised against: Uses: Additive. Industrial applications. Professional applications. Uses advised against: None identified 1.3. Details of the supplier of the safety data sheet: Manufacturer/Supplier: Emerald Performance Materials, LLC Emerald Kalama Chemical, LLC 1296 NW Third Street Kalama, WA 98625 United States Telephone: +1-360-673-2550 1499 SE Tech Center Place, Suite 300 Vancouver, WA 98683 United States Telephone: +1-360-954-7100 For further information about this SDS: Email: product.compliance@emeraldmaterials.com
- 1.4. Emergency telephone number:

ChemTel (24 hours): 1-800-255-3924 (USA); +1-813-248-0585 (outside USA).

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture:

Product classification according to Regulation (EC) 1272/2008 (CLP) as amended:

Skin Irritation, category 2, H315 Serious Eye Damage, category 1, H318 STOT, repeated exposure, category 1, H372

See Section 2.2 for full text of H (Hazard) statements (EC 1272/2008).

2.2. Label elements:

Product labeling according to Regulation (EC) 1272/2008 (CLP) as amended:

Hazard pictogram(s):



Signal word: Danger Hazard statements: H315 Causes skin irritation.

H318 Causes serious eye damage.

H372 Causes damage to organs (lungs) through prolonged or repeated exposure by inhalation.

Precautionary statements:

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves/eye protection/face protection.

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.

Supplemental information:

No Additional Information

Precautionary statements are listed according to the United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS) - Annex III and ECHA Guidance on Labelling and Packaging. Regulations in individual countries/regions may determine which statements are required on the product label. See product label for specifics.

2.3. Other hazards:

PBT/vPvB criteria:	This product does not meet the PBT and vPvB classification criteria.		
Endocrine disrupting properties:	No specific information available.		
Other hazards:	Product can form a flammable vapor/air mixture at temperatures at or above the		
	flash point. At molten material storage temperatures, explosive vapor-air		
	mixtures may be formed. Vapor of liquid Benzoic Acid sublimates easily		
	forming finely dispersed particles. Heated product causes burns. Potential		

See Section 11 for toxicological information.

SECTION 3: Composition/information on ingredients

dust explosion hazard.

3.1. Substance:				
CAS-No.	Chemical Name	<u>Weight%</u>	Classification	H Statements
000065-85-0	Benzoic Acid	99-100	Eye Dam. 1- Skin Irrit. 2- STOT RE 1	H315-318-372
Mixture	Biphenyl and Methyldiphenyl compounds	0.1-<0.3	Aquatic Acute 1- Aquatic Chronic 1- Eye Irrit. 2- Skin Irrit. 2- STOT SE 3 RTI	H315-319-335-400- 410
CAS-No.	Chemical Name	<u>REACH Re</u>	gistration No.	EC/List Number
000065-85-0	Benzoic Acid	Not Availab	le	200-618-2
Mixture	Biphenyl and Methyldiphenyl compounds	Impurity		Impurity
CAS-No.	Chemical Name	M-factor	<u>SCLs</u>	<u>ATE</u>
000065-85-0	Benzoic Acid	N/A	N/E	Not Available
Mixture	Biphenyl and Methyldiphenyl compounds	1	N/E	Not Available

See Section 16 for full text of H (Hazard) statements (EC 1272/2008).

Amounts specified are typical and do not represent a specification. Remaining components are proprietary, non-hazardous, and/or present at amounts below reportable limits.

SECTION 4: First aid measures

4.1. Description of first aid measures:

General: If irritation or other symptoms occur or persist from any route of exposure, remove the affected individual from the area: see a physician/get medical attention.

Eye contact: Immediately flush eyes with plenty of clean water for an extended time, not less than fifteen (15) minutes. Flush longer if there is any indication of residual chemical in the eye. Ensure adequate flushing of the eyes by separating the eyelids

with fingers and roll eyes in a circular motion. Get medical attention immediately.

Skin contact: Immediately remove contaminated clothing and shoes. Wash the affected area with plenty of soap and water until no evidence of the chemical remains (at least 15-20 minutes). Launder clothing before reuse. Get medical attention immediately. In case of contact with molten material, get medical attention immediately.

Inhalation: If affected, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Call a POISON CENTER or doctor/physician if you feel unwell.

Ingestion: Do not induce vomiting. Never give anything by mouth to an unconscious person. Rinse out the mouth with water. Get medical attention immediately.

Protection of first aid responders: Wear proper personal protective clothing and equipment.

4.2. Most important symptoms and effects, both acute and delayed:

Burns, Eye redness and pain, Irritation. Preexisting sensitization, skin and/or respiratory disorders or diseases may be aggravated. See section 11 for additional information.

4.3. Indication of any immediate medical attention and special treatment needed:

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media:

Suitable: Use water spray, dry chemical, or foam. Carbon dioxide may be ineffective on larger fires due to a lack of cooling capacity which may result in reignition. Use water/water spray to cool fire exposed containers.

Unsuitable: None known.

5.2. Special hazards arising from the substance or mixture:

Unusual fire/explosion hazards: Product can form a flammable vapor/air mixture at temperatures at or above the flash point. The storage of molten benzoic acid involves storage of a liquid within its flammable range (at or above the flash point). At molten material storage temperatures, explosive vapor-air mixtures may be formed. Vapor of liquid Benzoic Acid sublimates easily forming finely dispersed particles. Leakage of molten benzoic acid into pipe insulation can cause fire-effects at far lower temperatures than the autoignition temperature. Closed container may rupture (due to build up in pressure) when exposed to extreme heat. Potential dust explosion hazard.

Hazardous combustion products: Irritating or toxic substances may be emitted upon burning, combustion or decomposition. See section 10 (10.6 Hazardous decomposition products) for additional information.

5.3. Advice for firefighters:

Water spray (fog) can be used to absorb heat and to cool and protect surrounding exposed material. Wear self-contained breathing apparatus (SCBA) equipped with a full facepiece and operated in a pressure-demand mode (or other positive pressure mode) and approved protective clothing. Personnel without suitable respiratory protection must leave the area to prevent significant exposure to hazardous gases from combustion, burning or decomposition. In an enclosed or poorly ventilated area, wear SCBA during cleanup immediately after a fire as well as during the attack phase of firefighting operations.

See section 9 for additional information.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures:

See Section 8 for recommendations on the use of personal protective equipment. If spilled in an enclosed area, ventilate. Eliminate ignition sources. Personal Protective Equipment must be worn.

6.2. Environmental precautions:

Do not flush liquid into public sewer, water systems or surface waters.

6.3. Methods and material for containment and cleaning up:

Contain by diking with sand, earth or other non-combustible material. Wear proper personal protective clothing and

equipment. Absorb spill with an inert material. Place into labeled, closed container; store in safe location to await disposal. Change contaminated clothing and launder before reuse. Allow molten product to cool and harden. Sweep up carefully and place into container for reuse or disposal. Do not sweep or flush product into sewers or waterways.

6.4. References to other sections:

See Section 8 for recommendations on the use of personal protection and Section 13 for waste disposal.

SECTION 7: Handling and storage

7.1. Precautions for safe handling:

As with any chemical product, use good laboratory/workplace procedures. Do not cut, puncture, or weld on or near the container. Do not get in eyes, on skin or clothing. Wash thoroughly after handling this product. Always wash up before eating, smoking or using the facilities. Use under well-ventilated conditions. Avoid inhalation of aerosol, mist, spray, fume or vapor. Avoid drinking, tasting, swallowing or ingesting this product. Only use grounded, electrically conductive transfer lines when pneumatically conveying product. Wash contaminated clothing before reuse. Provide eyewash fountains and safety showers in the work area. Eliminate ignition sources (e.g., sparks, static buildup, excessive heat, etc.). In general, dust of organic materials is a static charge generator which may be ignited by electrostatic discharge, electrical arcs, sparks, welding torches, cigarettes, open flame, or other significant heat sources. Bond, ground and properly vent conveyors, dust control devices and other transfer equipment. Prevent accumulation of dust (e.g., well-ventilated conditions, promptly vacuuming spills, cleaning overhead horizontal surfaces, etc.).

7.2. Conditions for safe storage, including any incompatibilities:

Store cool and dry, under well-ventilated conditions. Keep away from heat, sparks and open flames. Store this material away from incompatible substances (see section 10). Storage temperatures for the molten material should be kept as low as possible, from 130 - 135°C. Do not store in open, unlabeled or mislabeled containers. Keep container closed when not in use. Do not reuse empty container without commercial cleaning or reconditioning. Store molten benzoic acid under nitrogen. Storage tank openings should be inspected frequently since benzoic acid can form, clogging the vent openings.

7.3. Specific end use(s):

No Additional Information

SECTION 8: Exposure controls / personal protection

8.1. Control parameters:

Occupational exposure limits (OEL):

Chemical Name	EU OELV	EU IOELV	ACGIH - TWA/Ceiling	ACGIH - STEL	
Benzoic Acid	N/E	N/E	N/E	N/E	
Biphenyl and Methyldiphenyl compounds	N/E	N/E	0.2 ppm TWA	N/E	
Chemical Name	UK WEL	Ireland OEL			
Benzoic Acid	N/E	N/E			
Biphenyl and Methyldiphenyl compounds	N/E	0.2 ppm TWA, 0.6 ppm			
		STEL			

N/E=Not established (no exposure limits established for the listed substances for listed country/region/organization). The above exposure limits are for Biphenyl.

Derived No Effect Levels (DNELs):

Benzoic Acid					
Population	Route	Acute (local)	Acute (systemic)	Long Term (local)	Long Term (systemic)
Workers	Inhalation	N/E	N/E	0,1 mg/m3	3 mg/m3
Workers	Dermal	N/E	N/E	N/E	62,5 mg/kg bw/day
General population	Inhalation	N/E	N/E	0,06 mg/m3	1,5 mg/m3
General population	Dermal	N/E	N/E	N/E	31,25 mg/kg bw/day
General population	Oral	N/E	N/E	N/E	16,6 mg/kg bw/day

Predicted No Effect Concentration (PNECs):

Benzoic Acid	
Compartment	PNEC
Freshwater	0,34 mg/L

<u>Compartment</u>	PNEC
Freshwater sediment	1,75 mg/kg dw
Marine water	0,034 mg/L
Marine water sediment	0,175 mg/kg dw
Intermittent releases	0,331 mg/L
Soil	0,151 mg/kg dw
STP	100 mg/L
Oral	No potential for bioaccumulation
N// - Net established, N/A - Net a	un line ha (net very lived), have been also also also also also also also has been also also have been also have

N/E=Not established; N/A=Not applicable (not required); bw=body weight; dw=dry weight; ww=wet weight.

8.2. Exposure controls:

Appropriate engineering controls: Always provide effective general and, when necessary, local exhaust ventilation to draw fumes, vapors and/or dust away from workers to prevent routine inhalation. Ventilation must be adequate to maintain the ambient workplace atmosphere below the exposure limit(s) outlined in the SDS. Eliminate ignition sources (e.g., sparks, static buildup, excessive heat, etc.).

Individual protection measures, such as personal protective equipment:

Eye/face protection: Wear safety glasses with side shields (or goggles) and a face shield.

Hand protection: Avoid skin contact when mixing or handling the material by wearing impervious and chemical resistant gloves. In case of prolonged immersion or frequently repeated contact, gloves with breakthrough times greater than 480 minutes (protection class 6) are recommended. For brief contact or splash applications, gloves with breakthrough times of 30 minutes or greater are recommended (protection class 2 or greater). Suggested materials for protective gloves: Butyl rubber, Nitrile rubber, Neoprene, PVC, Viton. Protective gloves insulated against heat. The protective gloves to be used must comply with the specifications of the Regulation (EU) 2016/425 and the resultant standard EN 374. Suitability and durability of a glove is dependent on usage (e.g. frequency and duration of contact, other chemicals which may be handled, chemical resistance of glove material and dexterity). Always seek advice of the glove supplier as to the most suitable glove material.

Skin and body protection: Use good laboratory/workplace procedures including personal protective clothing: labcoat, safety glasses and protective gloves.

Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment. Dust production: dust mask with filter type P2.

Further information: Extra personal protection including hard hat, rubber over-boots, coveralls, and heat-resistant overclothing should be used to guard against contact with molten material.

Environmental exposure controls: See Sections 6 and 12.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties:

Physical state:	Viscous liquid (molten)
Colour:	Colorless, Light Yellow
Odour:	Pungent
Odour threshold:	Not Available
Melting point/Freezing point:	122 °C (252 °F)
Boiling point °C:	249 °C @ 760 mm Hg
Boiling point °F:	480 °F @ 760 mm Hg
Flammability:	Not flammable
Lower and upper explosion limit:	LEL: Not Available
	UEL: Not Available
Flash point:	121 °C (250 °F) Closed Cup
Auto-ignition temperature:	573°C (1063°F)
Decomposition temperature:	Not Available
pH:	2.8 @ 25°C (saturated solution)
Kinematic viscosity:	1.13 mm2/s (1.2 centipoise) @ 130°C
Solubility in water:	3.5 g/L @ 25°C
Partition coefficient n-octanol/water (log value):	1.88

Vapour pressure:	0.0011 hPa @ 20°C
Density and/or relative density:	1.06 @150°C (Molten)
Relative vapour density:	4.21 (Air = 1)
Particle characteristics:	Not Applicable
% Volatile by weight:	Not Available
VOC:	Not Available

Amounts specified are typical and do not represent a specification.

9.2. Other information:

Information with regard to physical hazard classes:

Explosive properties: Not explosive Oxidising properties: Not oxidizing

Other safety characteristics:

Evaporation rate: Not Available

Dust combustibility data: Particle size variation is considered a critical factor in regards to dust explosion hazard information. The Minimum Ignition Energy (MIE) of a dust/air mix depends on the particle size the water content and the temperature of the dust. The finer and the dryer the dust the lower the MIE. The following results are not typical of the product as the test samples were processed by milling and/or sieving prior to testing. Unless specified differently below, the test samples were characterized with particle size: 16 um mean (distribution: 99% <75 um, 100% <500 um) and 0.2% moisture content.

- Minimum ignition energy: 1-<3 mJ with inductance, 1-<3 mJ without inductance.
- Minimum explosive concentration: 40-50 g/m3.
- Minimum autoignition temperature (MIT dust cloud): 570°C.
- Maximum rate of pressure rise (dP/dT average): 1039 bars/sec.
- Maximum pressure of explosion (Pmax average): 8.0 bars-gauge.
- Deflagration Index, Kst: 282 bar-m/sec.
- Dust explosion class: St2.
- Volume resistivity (ambient relative humidity): 7.4 x 10(9) ohm-m (flakes, unknown particle size).
- Volume resistivity (low relative humidity): 1.2 x 10(12) ohm-m (flakes, unknown particle size).
- Charge decay (ambient relative humidity): 37 seconds (flakes, unknown particle size).
- Charge decay (low relative humidity): 43 seconds (flakes, unknown particle size).

SECTION 10: Stability and reactivity

10.1. Reactivity:

None known.

10.2. Chemical stability:

This product is stable.

10.3. Possibility of hazardous reactions:

Hazardous polymerization will not occur. Water solutions of product may produce hydrogen gas in contact with aluminum or some other metals.

10.4. Conditions to avoid:

Excessive heat and ignition sources. Avoid static discharge. Avoid dust formation.

10.5. Incompatible materials:

Avoid strong acids, bases, and oxidizing agents. Avoid contact with reducing agents. Avoid contact with metals.

10.6. Hazardous decomposition products:

Carbon dioxide and carbon monoxide, benzene, phenol.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity: Not classified (based on available data, the classification criteria are not met).

<u>Chemical Name</u> Benzoic Acid	Inhalation LC50 >12.2 mg/L (4 hours, no mortalities)	<u>Species</u> Rat/ adult	<u>Oral LD50</u> 2250 mg/kg	<u>Species</u> Mouse	<mark>Dermal LD50</mark> ≥2000 mg/kg	<u>Species</u> Rabbit/ adult
Biphenyl and Methyldiphenyl compounds	>0.275 mg/L (4 hours, similar materieals)	Mouse	>2000 mg/kg (similar materials)	Mouse	>5000 mg/kg (similar materials)	Rabbit/ adult

Skin corrosion/irritation: Causes skin irritation - Category 2. BENZOIC ACID: Benzoic acid and its salts are capable of causing non-immune immediate contact reactions (NIICR) and non immunogenic contact urticaria (NICU), also known as pseudoallergy. Per definition, non-immunologic immediate contact reactions are considered irritant reactions.

Chemical Name	Skin irritation	Species
Benzoic Acid	Irritant	Guinea pig/Human
Biphenyl and Methyldiphenyl compounds	Irritant	Similar materials

Serious eye damage/irritation: Causes serious eye damage - Category 1.

Chemical Name	Eye irritation	<u>Species</u>
Benzoic Acid	Severe irritant	Rabbit/ adult
Biphenyl and Methyldiphenyl compounds	Irritant	Similar materials

Respiratory or skin sensitization: Not classified (based on available data, the classification criteria are not met). BENZOIC ACID: Not a skin sensitizer in the mouse local lymph node assay or Buehler guinea pig test.

Chemical Name	Skin sensitisation	<u>Species</u>
Benzoic Acid	Non-sensitizer	Guinea pig and Mouse local lymph node assay
Biphenyl and Methyldiphenyl compounds	N/E	N/E

Germ cell mutagenicity: Not classified (based on available data, the classification criteria are not met). BENZOIC ACID AND BENZOATE SALTS: Studies of benzoic acid and sodium benzoate in the Ames point mutation assay do not show evidence of mutagenicity. However, some studies have been reported to be positive in the less commonly used Bacillus subtilus recombination assay. In a number of cases adverse effects on the chromosome could be noticed, however also negative and/or equivocal results were reported. However many higher-level in vivo tests (clastogenicity inclusive) were negative. Sodium benzoate exhibited no genotoxicity in several in-vivo assays.

Carcinogenicity: Not classified (based on available data, the classification criteria are not met). READ-ACROSS (SODIUM BENZOATE): In a 2-year animal feeding study (2% in food), sodium benzoate was not carcinogenic.

Reproductive toxicity: Not classified (based on available data, the classification criteria are not met). BENZOIC ACID AND BENZOATE SALTS: Reproductive toxicity (benzoic acid), 4-generation oral study in rats: NOAEL (no-observed adverse-effect-level) 500 mg/kg bw/day. Developmental toxicity (sodium benzoate), oral, rats and mice: NOAEL of >=175 mg/kg bw/day can be established for developmental effects.

Specific target organ toxicity (STOT) - single exposure: Not classified (based on available data, the classification criteria are not met).

Specific target organ toxicity (STOT) - repeated exposure: Causes damage to organs through prolonged or repeated exposure - Category 1. BENZOIC ACID: Repeated dose toxicity study, inhalation: NOAEC (No-Observed-Adverse-Effect-Concentration), inhalation, rat: 250 mg/m3 (systemic effects); 25 mg/m3 (local). Local effects including nasal redness, pulmonary fibrosis and inflammatory cell infitrates in the lungs were observed at lowest dose of 25 mg/m3. NOAEL (No-Observed-Adverse-Effect-Level), dermal, rabbit - 2500 mg/kg bw/day. READ-ACROSS (SODIUM BENZOATE): Repeated dose oral toxicity studies for salts of benzoic acids: NOAEL (no-observed-adverse-effect-level) 1000 mg/kg bw/day. BENZOIC ACID AND BENZOATE SALTS: At higher doses (oral) increased mortality, reduced weight gain, convulsions (central nervous system effects), liver and kidney effects were observed.

Aspiration hazard: Not classified.

Information on likely routes of exposure:

General: Caution must be exercised through the prudent use of protective equipment and handling procedures to minimize exposure. Heated product causes burns.

Eyes: Causes serious eye damage.

Skin: Causes skin irritation. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. Heated product causes burns.

Inhalation: High airborne concentrations of vapors resulting from heating, misting or spraying may cause irritation of the respiratory tract and mucous membranes. Heated product causes burns.

Ingestion: May be harmful if swallowed. Ingestion may cause irritation. Heated product causes burns.

11.2. Information on other hazards

Endocrine disrupting properties: No specific information available.

Other information: No additional information available.

SECTION 12: Ecological information

12.1. Toxicity:

	Chemical Name	Species	Acute	Acute	Chronic	
	Benzoic Acid	Fish	LC50 44.6 mg/L (96 hours)	LC50 47.3 mg/L(96 hours)	NOEC >120 mg/L (28 days)	
	Benzoic Acid	Invertebrates	EC50 >100 mg/L (48 hours)	EC50 102-500 mg/L(24 hours)	NOEC >=25 mg/L (21 days)	
	Benzoic Acid	Algae	EC50 >33.1 mg/L (72 hours)	EC50 168 mg/L(24 hours)	EC10 3.4 mg/L(72 hours)	
	Benzoic Acid	Micro-organism	IC50 >1000 mg/L (3 hours)	о (ο (΄ ΄ ΄	
	Biphenyl and Methyldiphenyl compounds	Fish	LC50 1-10 mg/L (96 hours) (similar materials)	N/E	N/E	
	Biphenyl and Methyldiphenyl compounds	Invertebrates	EC50 0.1-1 mg/L (48 hours) (similar materials)	N/E	N/E	
	Biphenyl and Methyldiphenyl compounds	Algae	EC50 1-10 mg/L (96 hours) (similar materials)	N/E	N/E	
12.2.	Persistence and degradabilit Chemical Name Benzoic Acid Biphenyl and Methyldiphenyl compound	י ם ק	Biodegradation Readily biodegradable N/E			
12.3. Bioaccumulative potential:						
	<u>Chemical Name</u> Benzoic Acid Biphenyl and Methyldiphenyl compound	N	Bioconcentration Factor (BCF) N/E N/E	1	. <mark>og Kow</mark> .88 -4	
12.4. Mobility in soil:						
	<u>Chemical Name</u> Benzoic Acid		Aobility in soil (Koc/Kow) 5.49 (calculated)			

12.5. Results of PBT and vPvB assessment:

Biphenyl and Methyldiphenyl compounds

This product does not meet the PBT and vPvB classification criteria.

N/E

12.6. Endocrine disrupting properties:

No specific information available.

12.7. Other adverse effects:

No additional information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods:

Dispose of unused contents (incineration) in accordance with national and local regulations. Dispose of container in accordance with national and local regulations. Ensure the use of properly authorized waste management companies, where appropriate.

See Section 8 for recommendations on the use of personal protective equipment.

SECTION 14: Transport information

The information below is provided to assist in documentation. It may supplement the information on the package. The package in

your possession may carry a different version of the label depending on the date of manufacture. Depending on inner packaging quantities and packaging instructions, it may be subject to specific regulatory exceptions.

14.1. UN number or ID number: UN3256

14.2. UN proper shipping name:

Elevated temperature liquid, flammable, n.o.s. (Benzoic acid)

14.3. Transport hazard class(es):

U.S. DOT hazard class: 3 Canada TDG hazard class: 3 Europe ADR/RID/ADN hazard class: 3 IMDG Code (ocean) hazard class: 3 ICAO/IATA (air) hazard class: 3

A "N/A" listing for the hazard class indicates the product is not regulated for transport by that regulation.

14.4. Packing group: III

14.5. Environmental hazards:

Marine pollutant: Not Applicable

Hazardous substance (USA): A shipment in a single package greater than 5,000 lbs. may exceed the reportable quantity (RQ) for one or more components.

14.6. Special precautions for user:

Not Applicable

14.7. Maritime transport in bulk according to IMO instruments

Not Applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Europe REACh (EC) 1907/2006: Not all applicable components are registered. Please contact your sales representative for further information regarding REACh compliance. REACh is only relevant to substances either manufactured or imported into the EU. REACh information regarding this product is provided for informational purposes only. Each Legal Entity may have differing REACh obligations, depending on their place in the supply chain. For material manufactured outside of the EU, the importer of record must understand and meet their specific obligations under the regulation.

EU Authorizations and/or restrictions on use: Not Applicable

Other EU information: No Additional Information

National regulations: No Additional Information

Chemical inventories:

Regulation	<u>Status</u>
Australian Inventory of Industrial Chemicals (AIIC):	Y
Canadian Domestic Substances List (DSL):	Y
Canadian Non-Domestic Substances List (NDSL):	Ν
China Inventory of Existing Chemical Substances (IECSC):	Y
European EC Inventory (EINECS, ELINCS, NLP):	Y
Japan Existing and New Chemical Substances (ENCS):	Y
Japan Industrial Safety and Health Law (ISHL):	Y
Korean Existing and Evaluated Chemical Substances (KECL):	Y
New Zealand Inventory of Chemicals (NZIoC):	Y
Philippines Inventory of Chemicals and Chemical Substances (PICCS):	Y
Taiwan Inventory of Existing Chemicals:	Y
U.S. Toxic Substances Control Act (TSCA) (Active):	Y

A "Y" listing indicates all intentionally added components are either listed or are otherwise compliant with the regulation. A "N" listing indicates that for one or more components: 1) there is no listing on the public inventory (or is not on the ACTIVE inventory for U.S. TSCA); 2) no information is available; or 3) the component has

not been reviewed. A "Y" for New Zealand may mean that a qualified group standard may exist for the components in this product.

15.2. Chemical safety assessment:

Not Applicable

SECTION 16: Other information

Hazard (H) Statements in the Composition section (Section 3):

- H315 Causes skin irritation.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.
- H372 Causes damage to organs through prolonged or repeated exposure.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.

Reason for revision: Changes in Section(s): 1, Safety data sheet format (Regulation (EU) 2020/878)

Evaulation method for classification of mixtures: Not Applicable (substance)

Legend:

* : Trademark owned by Emerald Performance Materials, LLC.

ACGIH: American Conference of Governmental Industrial Hygienists

ATE: Acute toxicity estimate

EU OELV: European Union Occupational Exposure Limit Value

EU IOELV: European Union Indicative Occupational Exposure Limit Value

N/A: Not Applicable

N/E: None Established

SCL: Specific concentration limit

STEL: Short Term Exposure Limit

TWA: Time Weighted Average (exposure for 8-hour workday)

Users Responsibility/Disclaimer of Liability:

The information set forth herein is based on our current knowledge, and is intended to describe the product solely with respect to health, safety and the environment. As such, it must not be interpreted as a guarantee of any specific property of the product. As a result, the customer shall be solely responsible for deciding whether said information is suitable and beneficial.

Safety Data Sheet Preparer: Product Compliance Department Emerald Performance Materials, LLC 1499 SE Tech Center Place, Suite 300 Vancouver, WA 98683 United States