# alpha

## Safety Data Sheet

#### FOR REGULATORY AND SDS QUESTIONS (U.S. AND CANADA): CALL THE PRODUCT STEWARDSHIP LINE 1- 908-791-2336 9 AM TO 6 PM ET (Mon-Fri)

## Section 1. Identification

Product name Product code	: ALPHA® RA-32 Flux Solder Wire Cored 95.5Sn/4Cu/0.5Ag Alloy : M478RA32
Product type	: Solid.
Date of issue/Date of revision	: January 23 2020.

Manufacturer - Supplier	Telephone no.:	Emergency phone:
Alpha Assembly Solutions Inc. Global Headquarters 300 Atrium Drive Somerset, New Jersey 08873	Toll Free: (800) 367-5460 Main Phone: (908) 791-3000	OMESTIC NORTH AMERICA 202-464-2554
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Alpha Assembly Solutions Brasil Soldas Ltda Rio Jaguarão, 1540 - Vila Buriti Manaus Amazonas 69072-055 Brasil	Tel: 55 92 3614-7400	Tel: 55 92 3614-7423

## Section 2. Hazards identification

OSHA/HCS status	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture	: SKIN SENSITIZATION - Category 1 TOXIC TO REPRODUCTION (Unborn child) - Category 1B TOXIC TO REPRODUCTION (Fertility) - Category 2
GHS label elements	
Hazard pictograms	
Signal word	: Danger
Hazard statements	: May cause an allergic skin reaction. May damage the unborn child. Suspected of damaging fertility.
Precautionary statements	
General	: Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

## Section 2. Hazards identification

Prevention	: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Avoid breathing dust. Contaminated work clothing must not be allowed out of the workplace.
Response	<ul> <li>IF exposed or concerned: Get medical attention. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention.</li> </ul>
Storage	: Store locked up.
Disposal	: Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazards not otherwise classified	: None known.

## Section 3. Composition/information on ingredients

Substance/mixture

: Mixture

Ingredient name	%	CAS number
tin	80-100	7440-31-5
copper	1-10	7440-50-8
Rosin/Resin	1-10	-
Proprietary Alcohol	0.1-1.0	-

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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.

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

#### Description of necessary first aid measures

Eye contact	: Check for and remove any contact lenses. Immediately flush eyes with running water for at least 30 minutes, keeping eyelids open. Get medical attention if irritation occurs.
Inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Skin contact	: Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 15 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Ingestion	: Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

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

## Section 4. First aid measures

Potential acute health effe	<u>cts</u>
Eye contact	: No known significant effects or critical hazards.
Inhalation	: No known significant effects or critical hazards.
Skin contact	: May cause an allergic skin reaction.
Ingestion	: No known significant effects or critical hazards.
Over-exposure signs/sym	<u>otoms</u>
Eye contact	: No specific data.
Inhalation	: Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
Skin contact	: Adverse symptoms may include the following: irritation redness reduced fetal weight increase in fetal deaths skeletal malformations
Ingestion	: Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
Indication of immediate me	dical attention and special treatment needed, if necessary
Notes to physician	<ul> <li>Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.</li> </ul>
Specific treatments	: No specific treatment.
Protection of first-aiders	: No action shall be taken involving any personal risk or without suitable training. If it is suspected that mists 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.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

Extinguishing media	
Suitable extinguishing media	: Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: None known.
Specific hazards arising from the chemical	: No specific fire or explosion hazard.
Hazardous thermal decomposition products	: Decomposition products may include the following materials: metal oxide/oxides
Special protective actions for fire-fighters	<ul> <li>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.</li> </ul>
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.

## Section 6. Accidental release measures

Personal precautions, protec	tiv	e equipment and emergency procedures
For non-emergency personnel	:	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.
For emergency responders	:	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
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 and materials for co	nt	ainment and cleaning up
Small spill	:	Move containers from spill area. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Place spilled material in a designated, 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.

## Section 7. Handling and storage

#### Precautions for safe handling

Protective measures	: Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. 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.
Advice on general occupational hygiene	: 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. See also Section 8 for additional information on hygiene measures.
Conditions for safe storage, including any incompatibilities	: 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. Store locked up. 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. See Section 10 for incompatible materials before handling or use.

## Section 8. Exposure controls/personal protection

#### Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
tin	ACGIH TLV (United States, 3/2017). TWA: 2 mg/m <sup>3</sup> , (as Sn) 8 hours. NIOSH REL (United States, 10/2016). TWA: 2 mg/m <sup>3</sup> , (as Sn) 10 hours. OSHA PEL (United States, 6/2016).
copper	<ul> <li>TWA: 2 mg/m³, (as Sn) 8 hours.</li> <li>OEL Reference is obsolete or not recognized. Consider revising.</li> <li>(United States, 1989). Notes: As copper</li> <li>TWA: 1 mg/m³ 8 hours. Form:</li> <li>TWA: 0.1 mg/m³ 8 hours. Form:</li> <li>ACGIH TLV (United States, 3/2017). Notes: as Cu</li> <li>TWA: 1 mg/m³, (as Cu) 8 hours. Form: Dust and mist</li> <li>OSHA PEL 1989 (United States, 3/1989). Notes: as Cu</li> <li>TWA: 1 mg/m³, (as Cu) 8 hours. Form: Dusts and Mists</li> <li>TWA: 0.1 mg/m³, (as Cu) 8 hours. Form: Dusts and Mists</li> <li>TWA: 0.1 mg/m³, (as Cu) 8 hours. Form: Fume</li> <li>NIOSH REL (United States, 10/2016). Notes: Note: The REL and</li> <li>PEL also apply to other copper compounds (as Cu) except</li> <li>Copper fumes.</li> <li>TWA: 1 mg/m³, (as Cu) 10 hours. Form: Dusts and Mists</li> <li>OSHA PEL (United States, 6/2016).</li> <li>TWA: 1 mg/m³ 8 hours. Form: Dusts and Mists</li> <li>OSHA PEL (United States, 3/2017). Notes: Substances for which the TLV is higher than the OSHA Permissible Exposure Limit (PEL) and/or the NIOSH Recommended Exposure Limit (REL).</li> <li>See CFR 58(124) :36338-33351, June 30, 1993, for revised OSHA</li> <li>PEL. Adopted Values enclosed are those for which changes are proposed. Consult the Notice of Intended Changes.</li> </ul>
Rosin/Resin	TWA: 0.2 mg/m <sup>3</sup> 8 hours. Form: Fume ACGIH TLV (United States, 3/2017). Skin sensitizer. Inhalation sensitizer.
Proprietary Alcohol	AIHA WEEL (United States, 10/2011). TWA: 0.5 ppm 8 hours.
Appropriate engineering controls	If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
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.
ndividual protection measure	
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. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/face protection	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, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
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## Section 8. Exposure controls/personal protection

Skin protection	
Hand protection	: 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.
Body protection	: 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.
Other skin protection	: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties

<u>Appearance</u>		
Physical state	1	Solid.
Color	:	Gray.
Odor	:	None.
Odor threshold	1	Not available.
рН	:	Not available.
Melting point	:	Not available.
Boiling point	:	Not available.
Flash point	:	Not available.
Evaporation rate	:	Not available.
Flammability (solid, gas)	:	Not available.
Lower and upper explosive (flammable) limits	:	Not available.
Vapor pressure	1	Not available.
Vapor density	:	Not available.
Relative density	1	Not available.
Solubility	1	Insoluble in the following materials: cold water and hot water.
VOC	1	1.5 g/l
Partition coefficient: n- octanol/water	:	Not available.
Auto-ignition temperature	1	Not available.
Decomposition temperature	:	Not available.
Viscosity	:	Not available.
Aerosol product		

## Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Incompatibility with various substances	<ul> <li>Reactive or incompatible with the following materials: oxidizing materials, reducing materials, acids, alkalis and moisture. Chlorine, peroxides</li> </ul>
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Other Hazardous decomposition products	: metal oxides, toxic. fumes
Hazardous polymerization	: Under normal conditions of storage and use, hazardous polymerization will not occur.

## Section 11. Toxicological information

Routes of entry : Dermal contact. Eye contact. Inhalation. Ingestion.

#### **Product/ingredient name** Result **Species** Dose Exposure tin LD50 Oral Rat >2000 mg/kg copper LC50 Inhalation Dusts and mists Rat 5.11 mg/l 4 hours Rosin/Resin LD50 Oral Mouse 2.2 g/kg LD50 Oral Rat 3 g/kg **Proprietary Alcohol** LD50 Dermal Rabbit 5000 mg/kg LD50 Oral Rat 1600 mg/kg

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Proprietary Alcohol	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-

#### **Sensitization**

**Acute toxicity** 

Not available.

#### **Mutagenicity**

Not available.

#### **Carcinogenicity**

No applicable toxicity data

#### **Additional information:**

#### Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
Proprietary Alcohol	Positive	Positive	Positive	Rat	Oral: 150 mg/kg	18 days During Pregnancy
	Positive	Positive	Positive	Rat	Oral: 500 mg/kg	9 days During Pregnancy
	-	Equivocal	-	Rat - Male	Inhalation: 500 ppm TCLo	6 hours per day
	-	Equivocal	-	Rat - Male	Dermal: 65 g/kg TDLo	-

**Teratogenicity** 

## Section 11. Toxicological information

Not available.

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Specific target organ toxic Not available.	<u>:ity</u>
Specific target organ toxic Not available.	<u>:ity (repeated exposure)</u>
Aspiration hazard Not available.	
Information on the likely routes of exposure	: Routes of entry anticipated: Oral, Dermal, Inhalation.
Potential acute health effec	<u>ts</u>
Eye contact	: No known significant effects or critical hazards.
Inhalation	: No known significant effects or critical hazards.
Skin contact	: May cause an allergic skin reaction.
Ingestion	: No known significant effects or critical hazards.
Symptoms related to the ph	nysical, chemical and toxicological characteristics
Eye contact	: No specific data.
Inhalation	: Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
Skin contact	: Adverse symptoms may include the following: irritation redness reduced fetal weight increase in fetal deaths skeletal malformations
Ingestion	: Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
Delayed and immediate effe	ects and also chronic effects from short and long term exposure
<u>Short term exposure</u>	
Potential immediate effects	: Not available.
Potential delayed effects	: Not available.
Long term exposure	
Potential immediate effects	: Not available.
Potential delayed effects	: Not available.
Potential chronic health ef	
General	: Once sensitized, a severe allergic reaction may occur when subsequent very low levels.

Potential delayed effects	available.	
Potential chronic health eff		
General	ce sensitized, a severe allergic reaction may occur when subsequently expose / low levels.	ed to
Carcinogenicity	known significant effects or critical hazards.	
Mutagenicity	known significant effects or critical hazards.	
Teratogenicity	/ damage the unborn child.	
<b>Developmental effects</b>	known significant effects or critical hazards.	
Fertility effects	pected of damaging fertility.	

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## Section 11. Toxicological information

#### Numerical measures of toxicity

Acute	toxicit	v esti	<u>mates</u>

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Route	ATE value
Oral	130053.1 mg/kg

## Section 12. Ecological information

Product/ingredient name	Result	Species	Exposure
copper	Acute EC50 1100 µg/l Fresh water Acute EC50 2.1 µg/l Fresh water	Aquatic plants - Lemna minor Daphnia - Daphnia longispina -	4 days 48 hours
	Aguta ICE0 12 ug/l Eroch water	Juvenile (Fledgling, Hatchling, Weanling)	72 hours
	Acute IC50 13 μg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 Hours
	Acute IC50 5.4 mg/l Marine water	Aquatic plants - Plantae - Exponential growth phase	72 hours
	Acute LC50 0.072 µg/l Marine water	Crustaceans - Amphipoda - Adult	48 hours
	Acute LC50 7.56 µg/l Marine water	Fish - Periophthalmus waltoni - Adult	96 hours
	Chronic NOEC 2.5 µg/l Marine water	Algae - Nitzschia closterium - Exponential growth phase	72 hours
	Chronic NOEC 7 mg/l Fresh water	Aquatic plants - Ceratophyllum demersum	3 days
	Chronic NOEC 0.02 mg/l Fresh water	Crustaceans - Cambarus bartonii - Mature	21 days
	Chronic NOEC 2 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 0.8 µg/l Fresh water	Fish - Oreochromis niloticus - Juvenile (Fledgling, Hatchling, Weanling)	6 weeks

#### Persistence and degradability

Not available.

#### **Bioaccumulative potential**

Product/ingredient name	LogPow	BCF	Potential
Rosin/Resin	1.9 to 7.7	-	high
Mobility in soil Soil/water partition coefficient (K <sub>oc</sub> )	: Not available.		
Other adverse effects	: No known significant effects	or critical hazards.	

#### Section 13. Disposal considerations

Disposal methods : 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.

## Section 13. Disposal considerations

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

	•					
	DOT Classification	TDG Classification	Mexico Classification	UN	IMDG	ΙΑΤΑ
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-	-	-
Transport hazard class(es)	-	-	-	-	-	-
Packing group	-	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.	No.

## Special precautions for user : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

## Section 15. Regulatory information

 U.S. Federal regulations
 : TSCA 5(a)2 proposed significant new use rule (SNUR): No products were found. TSCA 5(a)2 final significant new use rule (SNUR): No products were found. TSCA 12(b) one-time export notification: No products were found. TSCA 12(b) annual export notification: No products were found.
 : All components are listed or exempted.

#### SARA 302/304

**Composition/information on ingredients** 

No products were found.

#### SARA 311/312

Classification

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

#### <u>SARA 313</u>

	Product name	CAS number	%
Form R - Reporting requirements	copper	7440-50-8	1-10
Supplier notification	copper	7440-50-8	1-10

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed. California Prop. 65

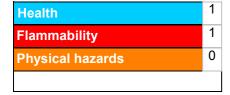
## Section 15. Regulatory information

**WARNING:** This product contains less than 1% of a chemical known to the State of California to cause birth defects or other reproductive harm.

<u>Canada</u>		
Canada inventory	: All components are listed or exempted.	
International lists		
National inventory		
Australia	: All components are listed or exempted.	
China	: All components are listed or exempted.	
Europe	: All components are listed or exempted.	
Japan	: All components are listed or exempted.	
Malaysia	: Not determined.	
New Zealand	: All components are listed or exempted.	
Philippines	: All components are listed or exempted.	
Republic of Korea	: All components are listed or exempted.	
Taiwan	: All components are listed or exempted.	
Thailand	: Not determined.	
Turkey	: Not determined.	
Viet Nam	: Not determined.	

## Section 16. Other information

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



#### Procedure used to derive the classification

Clas	sification	Justification	
Skin Sens. 1, H317 Repr. 1B, H360 (Unborn chi Repr. 2, H361 (Fertility)	ld)	Calculation method Calculation method Calculation method	
<u>History</u>			
Date of issue/Date of revision	: January 23 2020.		
Date of previous issue	: March 13 2019.		
Version	: 2.03		
Prepared by		Regulatory Affairs Department enthone.msds@macdermidenthone.com	
Key to abbreviations	BCF = Bioconcentration F GHS = Globally Harmoniz IATA = International Air Tr IBC = Intermediate Bulk C IMDG = International Mari LogPow = logarithm of the	ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Internediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973	

## Section 16. Other information

as modified by the Protocol of 1978. ("Marpol" = marine pollution) UN = United Nations

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.

4.9.04b4933

MacDermid Alpha SDS GHS Americas