

143627-1998

## Safety Data Sheet

## Section 1. Identification

Product name : ALPHA® RMA-390-DH3 Solder Paste 96.5Sn/3.5Ag 88-3-M07  
 Product code : 111269  
 Product type : Solid.  
 Date of issue/Date of revision : May 19 2015.

Manufacturer - Supplier	Telephone no.:	Fax no.	Emergency phone:
ALPHA Global Headquarters 300 Atrium Drive Somerset, New Jersey 08873	Toll Free: (800) 367-5460 Main Phone: (908) 791-3000	(908) 791-3090	DOMESTIC NORTH AMERICA 800-424-9300 INTERNATIONAL, CALL +1 703-527-3887 (collect calls accepted) Alpha Chemtrec# 5591
Alent Hong Kong Limited – Alpha Metals 8/F., Paul Y. Centre, 51 Hung To Road, Kwun Tong, Kowloon, Hong Kong	852-31903110 ext 110	852-2347 5301	852-31903110 ext 110
Alent Japan Co. 480-28 Higashitoyoda, Hiratsuka-shi, Kanagawa, Japan	81-463-53-3333	81-463-53-3311	81-463-53-3333
Alpha Korea.,Ltd 1Ra310,Sihwa Industrial Complex, 40, Okgucheonseo-ro,131 beon-gil, Siheung-Si,Gyeonggi-Do,Korea	82-31-433-1460	Fax: 82-31-432-4900	82-31-433-1451~2
Alent Alpha Metals(Shanghai) CO.,Ltd 2 floor, 5 Building, No.1151 Lianxi Road, Pudong New Area Shanghai 201204 P.R.China	86-21-63900600	86-21-5891 7033	86-21-63900600
Alpha Metals (Taiwan) Inc. No.4, Lane 100, Sec. 2, Nan-Shan Rd., Lu-Chu Hsiang, 33860 Taoyuan, Taiwan	03-3222721	03-3228956	03-3222721
Alent India Private Limited Plot No.16, North Phase, SIDCO Industrial Estate, Ambattur, Chennai- 600098, India	044-26252666	044-26258627	044-26252666
Alpha Metals Singapore 14 Tuas Avenue 10 Singapore 639138	65 68611977	65 68611670	65 68611977
Alent Alpha Metals (Shenzhen) Co.,Ltd. Tang Xia Yong Village, Songgang Town Baoan District, Shenzhen, Peoples Republic of China Postal Code: 518105	86 755 2705 1100	86 755 2755 1314	86 532 83889090

## Section 2. Hazards identification

Classification of the substance or mixture : SKIN SENSITIZATION - Category 1  
 GERM CELL MUTAGENICITY - Category 1B  
 CARCINOGENICITY - Category 1B

GHS label elements

## Section 2. Hazards identification

Hazard pictograms :



Signal word :

Danger

Hazard statements :

May cause an allergic skin reaction.  
May cause genetic defects.  
May cause cancer.

### Precautionary statements

Prevention :

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Avoid breathing dust. Contaminated work clothing should not be allowed out of the workplace.

Response :

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.

Storage :

Store locked up.

Disposal :

Dispose of contents and container in accordance with all local, regional, national and international regulations.

Other hazards which do not result in classification : None known.

## Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
tin	80-100	7440-31-5
Rosin/Resin	1-10	-
silver	1-10	7440-22-4
bis(2-butoxyethyl) ether	1-10	112-73-2
Rosin/Resin2	1-10	-
solvent.	0.1-1.0	-

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.

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.

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.

## Section 4. First aid measures

- 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

#### Potential acute health effects

- 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/symptoms

- Eye contact** : No specific data.  
**Inhalation** : No specific data.  
**Skin contact** : Adverse symptoms may include the following:  
irritation  
redness  
**Ingestion** : No specific data.

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

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.  
**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:  
carbon dioxide  
carbon monoxide  
metal oxide/oxides

- Special protective actions for fire-fighters** : 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.

## Section 5. Fire-fighting measures

- 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, protective 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 specialised 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 containment 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. 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.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
tin	<b>ACGIH TLV (United States, 4/2014).</b> TWA: 2 mg/m <sup>3</sup> , (as Sn) 8 hours. <b>ACGIH TLV (United States, 4/2014). Notes:</b> <b>Substances for which the TLV is higher than the OSHA Permissible Exposure Limit (PEL) and/or the NIOSH Recommended Exposure Limit (REL).</b> <b>See CFR 58(124) :36338-33351, June 30, 1993, for revised OSHA PEL.</b> TWA: 0.1 mg/m <sup>3</sup> 8 hours. Form: Dust and fumes <b>ACGIH TLV (United States, 4/2014). Notes:</b> <b>Substances for which the TLV is higher than the OSHA Permissible Exposure Limit (PEL) and/or the NIOSH Recommended Exposure Limit (REL).</b> <b>See CFR 58(124) :36338-33351, June 30, 1993, for revised OSHA PEL.</b> TWA: 525 mg/m <sup>3</sup> 8 hours. TWA: 100 ppm 8 hours.
silver	
solvent.	

Ingredient name	Exposure limits
tin	<b>TW 勞委會、</b> <b>勞工作業環境空氣中有害物容許濃度標準、容許濃度 (Taiwan, 6/2014). Notes: as Sn</b> STEL: 4 mg/m <sup>3</sup> , (as Sn) 15 minutes. TWA: 2 mg/m <sup>3</sup> , (as Sn) 8 hours. <b>TW 勞委會、</b> <b>勞工作業環境空氣中有害物容許濃度標準、容許濃度 (Taiwan, 6/2014). Notes: as Ag</b> STEL: 0.03 mg/m <sup>3</sup> , (as Ag) 15 minutes. Form: Dust and fumes TWA: 0.01 mg/m <sup>3</sup> , (as Ag) 8 hours. Form: Dust and fumes <b>TW 勞委會、</b> <b>勞工作業環境空氣中有害物容許濃度標準、容許濃度 (Taiwan, 6/2014).</b> STEL: 656.25 mg/m <sup>3</sup> 15 minutes. STEL: 125 ppm 15 minutes. TWA: 525 mg/m <sup>3</sup> 8 hours. TWA: 100 ppm 8 hours.
silver	
solvent.	

Ingredient name	Exposure limits
solvent.	<b>ACGIH TLV (United States, 4/2014). Notes:</b> <b>Substances for which the TLV is higher than the OSHA Permissible Exposure Limit (PEL) and/or the NIOSH Recommended Exposure Limit (REL).</b> <b>See CFR 58(124) :36338-33351, June 30, 1993, for revised OSHA PEL.</b> TWA: 525 mg/m <sup>3</sup> 8 hours. TWA: 100 ppm 8 hours.

## Section 8. Exposure controls/personal protection

Ingredient name	Exposure limits
tin  silver  solvent.	<b>Ministry of Labor (Republic of Korea, 8/2013).</b> TWA: 2 mg/m <sup>3</sup> 8 hours. <b>Ministry of Labor (Republic of Korea, 8/2013).</b> TWA: 0.1 mg/m <sup>3</sup> 8 hours. <b>ACGIH TLV (United States, 4/2014). Notes:</b> Substances for which the TLV is higher than the OSHA Permissible Exposure Limit (PEL) and/or the NIOSH Recommended Exposure Limit (REL). <b>See CFR 58(124) :36338-33351, June 30, 1993, for revised OSHA PEL.</b> TWA: 525 mg/m <sup>3</sup> 8 hours. TWA: 100 ppm 8 hours.
Ingredient name	Exposure limits
tin  Rosin/Resin   silver  solvent.	<b>DOSH USECHH (Malaysia, 4/2000).</b> TWA: 2 mg/m <sup>3</sup> 8 hours. <b>EH40/2005 WELs (United Kingdom (UK), 12/2011). Skin sensitizer.</b> STEL: 0.15 mg/m <sup>3</sup> 15 minutes. Form: Fume TWA: 0.05 mg/m <sup>3</sup> 8 hours. Form: Fume <b>DOSH USECHH (Malaysia, 4/2000).</b> TWA: 0.1 mg/m <sup>3</sup> 8 hours. <b>DOSH USECHH (Malaysia, 4/2000).</b> TWA: 525 mg/m <sup>3</sup> 8 hours. TWA: 100 ppm 8 hours.
Ingredient name	Exposure limits
tin  silver  solvent.	<b>Factories Order (PEL) (Singapore, 2/2006).</b> PEL (long term): 2 mg/m <sup>3</sup> 8 hours. <b>Factories Order (PEL) (Singapore, 2/2006).</b> PEL (long term): 0.1 mg/m <sup>3</sup> 8 hours. <b>Factories Order (PEL) (Singapore, 2/2006).</b> PEL (long term): 525 mg/m <sup>3</sup> 8 hours. PEL (long term): 100 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.

### Individual protection measures

- 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.

## Section 8. Exposure controls/personal protection

- 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.
- 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** : 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.

## Section 9. Physical and chemical properties

### Appearance

- Physical state** : Solid. [Paste.]
- Color** : Gray.
- Odor** : Acrid.
- Odor threshold** : Not available.
- pH** : Not available.
- Melting point** : Not available.
- Boiling point** : Not available.
- Flash point** : Closed cup: Not applicable.
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : Not available.
- Relative density** : Not available.
- Solubility** : Not available.
- VOC** : 35 g/l
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Viscosity** : Not available.

## 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.
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

## Section 11. Toxicological information

Routes of entry : Dermal contact. Inhalation. Ingestion.

### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
tin	LD50 Oral	Rat	>2000 mg/kg	-
Rosin/Resin	LD50 Oral	Mouse	2.2 g/kg	-
	LD50 Oral	Rat	3 g/kg	-
silver	LD Oral	Guinea pig	>5 g/kg	-
	LD Oral	Mouse	>10 g/kg	-
	LD50 Oral	Mouse	100 mg/kg	-
bis(2-butoxyethyl) ether	LD50 Oral	Rat	>2000 mg/kg	-
	LD50 Dermal	Rabbit	4040 uL/kg	-
	LD50 Oral	Rat	3900 mg/kg	-
	LD50 Oral	Rat	3900 mg/kg	-
Rosin/Resin2	LC50 Inhalation Dusts and mists	Rat	0.585 mg/l	6 hours
	LD50 Dermal	Rabbit	>2500 mg/kg	-
	LD50 Oral	Mouse	>4000 mg/kg	-
	LD50 Oral	Rat	>4000 mg/kg	-
solvent.	LC50 Inhalation Vapor	Rat	>5500 mg/m <sup>3</sup>	4 hours
	LD50 Oral	Rat	>5000 mg/kg	-

### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
bis(2-butoxyethyl) ether	Skin - Mild irritant	Rabbit	-	500 milligrams	-
solvent.	Eyes - Mild irritant	Human	-	100 parts per million	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-

### Sensitization

Not available.

### Mutagenicity

Not available.

### Carcinogenicity

Not available.

### Reproductive toxicity

Not available.

### Teratogenicity

Not available.

### Specific target organ toxicity (single exposure)

Not available.



## Section 11. Toxicological information

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Name	Result
solvent.	ASPIRATION HAZARD - Category 1

**Information on the likely routes of exposure** : Routes of entry anticipated: Oral, Dermal, Inhalation.

### Potential acute health effects

**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 physical, chemical and toxicological characteristics

**Eye contact** : No specific data.  
**Inhalation** : No specific data.  
**Skin contact** : Adverse symptoms may include the following:  
   irritation  
   redness  
**Ingestion** : No specific data.

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

**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 effects

Not available.

**General** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.  
**Carcinogenicity** : May cause cancer. Risk of cancer depends on duration and level of exposure.  
**Mutagenicity** : May cause genetic defects.  
**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.

### Numerical measures of toxicity

#### Acute toxicity estimates

Route	ATE value
Oral	31175.2 mg/kg
Dermal	143086.1 mg/kg

## Section 11. Toxicological information

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
silver	Acute EC50 1.4 µg/l Marine water	Algae - Chroomonas sp.	4 days
	Acute EC50 0.0092 mg/l	Daphnia	48 hours
	Acute EC50 0.24 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 4500 ppb Fresh water	Crustaceans - Gammarus pseudolimnaeus	48 hours
	Acute LC50 0.00213 mg/l	Fish	96 hours
	Acute LC50 0.00238 mg/l	Fish	96 hours
	Acute LC50 0.00276 mg/l	Fish	96 hours
	Acute LC50 0.00312 mg/l	Fish	96 hours
	Acute LC50 0.00342 mg/l	Fish	96 hours
	Chronic NOEC 5 mg/l Marine water	Algae - Glenodinium halli	72 hours
bis(2-butoxyethyl) ether	Acute LC50 134 mg/l Marine water	Crustaceans - Chaetogammarus marinus - Young	48 hours

### Persistence and degradability

Not available.

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Rosin/Resin	1.9 to 7.7	-	high
silver	-	70	low
bis(2-butoxyethyl) ether	1.92	-	low
solvent.	3.16 to 7.06	-	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. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

	UN	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.
Additional information	-	-	-

**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

### Taiwan

**SDS complies with the Regulation of Labeling and Hazard Communication of Hazardous Chemicals**

**List of chemicals reputed to be a "threat of imminent danger"** : This product contains substances considered to be a "Threat of imminent danger": tin, silver, Thixotrope.

**Safety, health and environmental regulations specific for the product** : No known specific national and/or regional regulations applicable to this product (including its ingredients).

### China

**SDS complies with the General Rules for Classification and Hazardous Communication of Chemicals GB-13690-2009, GB-30000 series, and GB/T 16438-2008.**

**China inventory (IECSC)** : All components are listed or exempted.

### List of Goods banned for Importing

None of the components are listed.

### List of Goods banned for Exporting

None of the components are listed.

### List of Toxic Chemicals Severely Restricted for Importing & Exporting by China

None of the components are listed.

### Republic of Korea

#### **A. Regulation according to ISHA**

ISHA Article 37 : None of the components are listed.

ISHA Article 38 : None of the components are listed.

Article 2 of Youth : Not applicable.

Protection Act on  
Substances Hazardous  
to Youth

**Exposure Limits of Chemical Substances and Physical Factors**

## Section 15. Regulatory information

The following components have an OEL:

tin  
silver  
solvent.

**Exposure Standards established for Harmful Factors** : None of the components are listed.

**Harmful Factors Subject to Work Environment Measurement** : The following components are listed: Tin, metal; Silver, metal

**Harmful Factors Subject to Special Health Check-up** : The following components are listed: Tin and compounds

**Hazardous Substances Subject to Control** : The following components are listed: Tin and its compounds; Silver and its compounds

### B. Regulation according to TCCA

**TCCA Toxic chemicals** : Not applicable

**TCCA Observational chemicals** : None of the components are listed.

**TCCA Article 32 (Banned)** : None of the components are listed.

**TCCA Article 32 (Restricted)** : None of the components are listed.

**TCCA Article 17 (TRI)** : The following components are listed: Tin and its compounds; Silver and its compounds

**Korea inventory** : All components are listed or exempted.

**Accident Precaution chemicals** : None of the components are listed.

**C. Dangerous Materials Safety Management Act** : Not available.

**D. Wastes regulation** : Dispose of contents and container in accordance with all local, regional, national and international regulations.

### Singapore

#### Singapore - hazardous chemicals under government control

None.

### International lists

#### National inventory

**Canada** : At least one component is not listed in DSL but all such components are listed in NDSL.

**Europe** : All components are listed or exempted.

**United States** : All components are listed or exempted.

## Section 16. Other information

### History

**Date of issue/Date of revision** : May 19 2015.

**Date of previous issue** : No previous validation.

**Version** : 1

## Section 16. Other information

Prepared by : Regulatory Affairs Department  
 Enthone Inc  
 350 Frontage Road  
 West Haven, CT 06516  
 Phone: (203) 934-8611  
 Fax: (203) 799-8179  
 enthonemsds@enthone.com  
 www.enthone.com

Key to abbreviations : ATE = Acute Toxicity Estimate  
 BCF = Bioconcentration Factor  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 IATA = International Air Transport Association  
 IBC = Intermediate Bulk Container  
 IMDG = International Maritime Dangerous Goods  
 LogPow = logarithm of the octanol/water partition coefficient  
 MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
 UN = United Nations

### Procedure used to derive the classification

Classification	Justification
Skin Sens. 1, H317	Calculation method
Muta. 1B, H340	Calculation method
Carc. 1B, H350	Calculation method

References : Not available.

☒ 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.

4.5b3271

Alpha SDS GHS UN

alpha® 