

Permite; Lojic +; GS-80; GS-80 Spherical; F400; New Ultrafine; SDI Admix; SDI Spherical; SDI Alloy, and Ultratabs- Alloy powder and Tablets

SDI Limited

Version No: 6.1.1.1 Safety Data Sheet (Conforms to Regulations (EC) No 2015/830) Issue Date: 12/01/2016 Print Date: 23/03/2016 Initial Date: Not Available

SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1.Product Identifier

Product name	Permite; Lojic +; GS-80; GS-80 Spherical; F400; New Ultrafine; SDI Admix; SDI Spherical; SDI Alloy, and Ultratabs- Alloy powder and Tablets
Synonyms	Not Available
Other means of identification	Not Available

1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	For filling of cavitated teeth by dental professionals.
Uses advised against	Not Applicable

1.3. Details of the supplier of the safety data sheet

Registered company name	SDI Limited	SDI Brazil Industria E Comercio Ltda	SDI Germany GmbH		
Address	3-15 Brunsdon Street VIC Bayswater 3153 Australia	Rua Dr. Virgilio de Carvalho Pinto, 612 São Paulo CEP 05415-020 Brazil	Hansestrasse 85 Cologne D-51149 Germany		
Telephone	+61 3 8727 7111 (Business Hours)	+55 11 3092 7100	+49 0 2203 9255 0		
Fax	+61 3 8727 7222	+55 11 3092 7101	+49 0 2203 9255 200		
Website	www.sdi.com.au	www.sdi.com.au	www.sdi.com.au		
Email	info@sdi.com.au	brasil@sdi.com.au	germany@sdi.com.au		
Registered company name	SDI (North America) Inc.				
Address	1279 Hamilton Parkway IL Itasca 60143 United States				
Telephone	+1 630 361 9200 (Business hours)				
Fax	Not Available				
Website	Not Available				
Email	USA.Canada@sdi.com.au				

1.4. Emergency telephone number

Association / Organisation	SDI Limited	Not Available	Not Available		
Emergency telephone numbers	+61 3 8727 7111	Not Available	Not Available		
Other emergency telephone numbers	ray.cahill@sdi.com.au	Not Available	Not Available		
Association / Organisation	Not Available	Not Available			
Emergency telephone numbers	+61 3 8727 7111				
Other emergency telephone numbers	Not Available				

SECTION 2 HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Not considered a dangerous mixture according to directive 1999/45/EC, Reg. (EC) No 1272/2008 (if applicable) and their amendments. Not classified as Dangerous Goods for transport purposes.

DSD classification	In case of mixtures, classification has been prepared by following DPD (Directive 1999/45/EC) and CLP Regulation (EC) No 1272/2008 regulations
DPD classification	Not Applicable

Version No: **6.1.1.1** Page **2** of **13** Issue Date: **12/01/2016**

Permite; Lojic +; GS-80; GS-80 Spherical; F400; New Ultrafine; SDI Admix; SDI Spherical; SDI Alloy, and Ultratabs- Alloy powder and Tablets

Classification according to regulation (EC) No 1272/2008 [CLP]

Not Applicable

2.2. Label elements

CLP label elements

Not Applicable

SIGNAL WORD

NOT APPLICABLE

Hazard statement(s)

Not Applicable

Supplementary statement(s)

EUH210

Safety data sheet available on request.

Precautionary statement(s) Prevention

Not Applicable

Precautionary statement(s) Response

Not Applicable

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

Not Applicable

2.3. Other hazards

Ingestion may produce health damage*.

REACh - Art.57-59: The mixture does not contain Substances of Very High Concern (SVHC) at the SDS print date.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

3.1.Substances

See 'Composition on ingredients' in Section 3.2

3.2.Mixtures

1.CAS No 2.EC No 3.Index No 4.REACH No	%[weight]	Name	Classification according to directive 67/548/EEC [DSD]	Classification according to regulation (EC) No 1272/2008 [CLP]
		tablets and alloy powder contains		
1.7440-22-4 2.231-131-3 3.Not Available 4.01-2119555669-21-XXXX	40-70	<u>silver</u>	R52 ^[1]	Not Applicable
1.7440-31-5 2.231-141-8 3.Not Available 4.01-2119486474-28-XXXX	20-30	<u>tin</u>	Not Applicable	Not Applicable
1.7440-50-8 2.231-159-6 3.Not Available 4.01-2119480154-42-XXXX, 01-2119480184-39-XXXX	5-30	copper	R52 ^[1]	Not Applicable
1.7440-74-6 2.231-180-0 3.Not Available 4.Not Available	0-0.5	indium	R11 ^[1]	Flammable Solid Category 1; H228 ^[1]
1.7440-66-6 2.231-175-3 3.030-001-00-1, 030-001-01-9 4.01-2119467174-37-XXXX, 01-2119459210-49-XXXX	0-0.5	<u>zinc</u>	R15, R17, R50/53 ^[2]	Emit Flammable Gases with Water Category 1, Pyrophoric Solid Category 1, Acute Aquatic Hazard Category 1, Chronic Aquatic Hazard Category 1; H260, H250, H400, H410 [3]
Legend:	Classification by vendor; 2. Classification drawn from EC Directive 67/548/EEC - Annex I; 3. Classification drawn from EC Directive 1272/2008 - Annex VI Classification drawn from C&L			

SECTION 4 FIRST AID MEASURES

4.1. Description of first aid measures

General

If skin or hair contact occurs:

► Flush skin and hair with running water (and soap if available).

Seek medical attention in event of irritation.

If this product comes in contact with the eyes:

▶ Wash out immediately with fresh running water.

Version No: **6.1.1.1** Page **3** of **13** Issue Date: **12/01/2016**

Permite; Lojic +; GS-80; GS-80 Spherical; F400; New Ultrafine; SDI Admix; SDI Spherical; SDI Alloy, and Ultratabs- Alloy powder and Tablets

	 Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. Seek medical attention without delay; if pain persists or recurs seek medical attention. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel. If dust is inhaled, remove from contaminated area. Encourage patient to blow nose to ensure clear breathing passages. Ask patient to rinse mouth with water but to not drink water. Seek immediate medical attention. Seek medical attention. Ingestion may result in nausea, abdominal irritation, pain and vomiting
Eye Contact	If this product comes in contact with the eyes: • Wash out immediately with fresh running water. • Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. • Seek medical attention without delay; if pain persists or recurs seek medical attention. • Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin or hair contact occurs: ► Flush skin and hair with running water (and soap if available). ► Seek medical attention in event of irritation.
Inhalation	 If dust is inhaled, remove from contaminated area. Encourage patient to blow nose to ensure clear breathing passages. Ask patient to rinse mouth with water but to not drink water. Seek immediate medical attention.
Ingestion	Seek medical attention. Ingestion may result in nausea, abdominal irritation, pain and vomiting

$\ensuremath{\textbf{4.2}}$ Most important symptoms and effects, both acute and delayed

See Section 11

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

Treat symptomatically.

SECTION 5 FIREFIGHTING MEASURES

5.1. Extinguishing media

- Water spray or fog.
- Foam.
- Dry chemical powder.
- ▶ BCF (where regulations permit).
- ▶ Carbon dioxide.

$\ \, \textbf{5.2. Special hazards arising from the substrate or mixture} \\$

Fire Incompatibility	None known.
5.3. Advice for firefighters	
Fire Fighting	 Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves in the event of a fire. Prevent, by any means available, spillage from entering drains or water courses. Use fire fighting procedures suitable for surrounding area. DO NOT approach containers suspected to be hot. Cool fire exposed containers with water spray from a protected location. If safe to do so, remove containers from path of fire. Equipment should be thoroughly decontaminated after use.
Fire/Explosion Hazard	May emit poisonous furnes. Articles and manufactured articles may constitute a fire hazard where polymers form their outer layers or where combustible packaging remains in place. Certain substances, found throughout their construction, may degrade or become volatile when heated to high temperatures. This may create a secondary hazard.

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

See section 8

6.2. Environmental precautions

See section 12

6.3. Methods and material for containment and cleaning up

6.5. Methods and materia	Tor containment and cleaning up
Minor Spills	 Clean up all spills immediately. Avoid breathing dust and contact with skin and eyes. Wear protective clothing, gloves, safety glasses and dust respirator. Use dry clean up procedures and avoid generating dust. Sweep up, shovel up or Vacuum up (consider explosion-proof machines designed to be grounded during storage and use). Place spilled material in clean, dry, sealable, labelled container.

Version No: 6.1.1.1 Page 4 of 13 Issue Date: 12/01/2016

Permite; Lojic +; GS-80; GS-80 Spherical; F400; New Ultrafine; SDI Admix; SDI Spherical; SDI Alloy, and Ultratabs- Alloy powder and Tablets

Minor hazard.

- Clear area of personnel.
- ▶ Alert Fire Brigade and tell them location and nature of hazard.
- Control personal contact with the substance, by using protective equipment as required.
- Prevent spillage from entering drains or water ways.
- **Major Spills** Contain spill with sand, earth or vermiculite.
 - Collect recoverable product into labelled containers for recycling.
 - Absorb remaining product with sand, earth or vermiculite and place in appropriate containers for disposal.
 - Wash area and prevent runoff into drains or waterways.
 - ▶ If contamination of drains or waterways occurs, advise emergency services.

6.4. Reference to other sections

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 HANDLING AND STORAGE

7.1. Precautions for safe handling

- ▶ Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- ▶ Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.
- ▶ DO NOT enter confined spaces until atmosphere has been checked.
- DO NOT allow material to contact humans, exposed food or food utensils.
- ▶ Avoid contact with incompatible materials.
 - When handling, DO NOT eat, drink or smoke
 - ▶ Keep containers securely sealed when not in use.
 - Avoid physical damage to containers.
 - Always wash hands with soap and water after handling.
 - Work clothes should be laundered separately. Launder contaminated clothing before re-use.
 - Use good occupational work practice.
 - Observe manufacturer's storage and handling recommendations contained within this SDS.
 - ▶ Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

Fire and explosion

Safe handling

protection

See section 5

Other information

► Store away from incompatible materials.

Store in a dry and well ventilated-area, away from heat and sunlight.

7.2. Conditions for safe storage, including any incompatibilities

Suitable container	► DO NOT repack. Use containers supplied by manufacturer only. Store below 25 deg. C.
Storage incompatibility	► Avoid strong acids, acid chlorides, acid anhydrides and chloroformates.

7.3. Specific end use(s)

See section 1.2

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

DERIVED NO EFFECT LEVEL (DNEL)

Not Available

PREDICTED NO EFFECT LEVEL (PNEC)

Not Available

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
UK Workplace Exposure Limits (WELs)	silver	Silver, metallic	0.1 mg/m3	Not Available	Not Available	Not Available
European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (English)	silver	Silver, metallic	0,1 mg/m3	Not Available	Not Available	Not Available
European Union (EU) Commission Directive 2006/15/EC establishing a second list of indicative occupational exposure limit values (IOELVs)	silver	Silver (soluble compounds as Ag)	0,01 mg/m3	Not Available	Not Available	Not Available
EU Directive 91/322/EEC Indicative Occupational Exposure Limit Values (IOELVs)	tin	Tin (inorganic compounds as Sn) (6)	2 mg/m3	Not Available	Not Available	Not Available
EU Consolidated List of Indicative Occupational Exposure Limit Values	tin	Tin and inorganic tin compounds	2 mg/m3	Not Available	Not Available	Not Available

Version No: 6.1.1.1 Page 5 of 13 Issue Date: 12/01/2016

Permite; Lojic +; GS-80; GS-80 Spherical; F400; New Ultrafine; SDI Admix; SDI Spherical; SDI Alloy, and Ultratabs- Alloy powder and Tablets

(IOELVs)						
UK Workplace Exposure Limits (WELs)	copper	Copper fume / Copper dusts and mists (as Cu)	0.2 mg/m3 / 1 mg/m3	2 mg/m3	Not Available	Not Available
UK Workplace Exposure Limits (WELs)	indium	Indium and compounds (as In)	0.1 mg/m3	0.3 mg/m3 / 0 ppm	Not Available	Not Available

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
silver	Silver	0.1 mg/m3	0.1 mg/m3	11 mg/m3
tin	Tin	6 mg/m3	67 mg/m3	400 mg/m3
copper	Copper	1 mg/m3	1 mg/m3	45 mg/m3
indium	Indium	0.1 mg/m3	0.1 mg/m3	0.45 mg/m3
zinc	Zinc	1.9 mg/m3	21 mg/m3	120 mg/m3

Ingredient	Original IDLH	Revised IDLH
silver	N.E. mg/m3 / Unknown mg/m3 / N.E. ppm / Unknown ppm	10 mg/m3 / 1 mg/m3
tin	Unknown mg/m3 / 400 mg/m3 / Unknown ppm	25 mg/m3 / 100 mg/m3
copper	N.E. mg/m3 / N.E. ppm	100 mg/m3
indium	Not Available	Not Available
zinc	Not Available	Not Available

MATERIAL DATA

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Articles or manufactured items, in their original condition, generally don't require engineering controls during handling or in normal use. Exceptions may arise following extensive use and subsequent wear, during recycling or disposal operations where substances, found in the article, may be released to the environment.

8.2.2. Personal protection







Eye and face protection

- Safety glasses with side shields
- Chemical goggles

See Hand protection below

Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]

Oldin proteotion	Goo Haria protoction bolow
Hands/feet protection	Wear impervious gloves.
Body protection	See Other protection below
Other protection	No special equipment needed when handling small quantities. OTHERWISE: Overalls. Partier group.

Skin protection

- ► Eyewash unit.
- Thermal hazards Not Available

8.2.3. Environmental exposure controls

See section 12

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance	Bluish-grey silver alloy powder and silver-grey compressed silver alloy powder (tablets) with no odour, insoluble in water.		
Physical state	Manufactured	Relative density (Water = 1)	Not Available
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Applicable
pH (as supplied)	Not Applicable	Decomposition temperature	Not Applicable
Melting point / freezing point (°C)	Undetermined (>500)	Viscosity (cSt)	Not Applicable
Initial boiling point and boiling range (°C)	Undetermined (>900)	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Applicable	Taste	Not Available

Version No: 6.1.1.1 Page 6 of 13 Issue Date: 12/01/2016

Permite: Loiic +: CS-80: CS-80 Spherical: E400: New Ultrafine: SDI Admix: SDI Spherical: SDI

Print Date: 23/03/2016

Permite; Lojic +; GS-80; GS-80 Spherical; F400; New Ultrafine; SDI Admix; SDI Spherical; SDI Alloy, and Ultratabs- Alloy powder and Tablets

Evaporation rate	Not Applicable	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Applicable	Surface Tension (dyn/cm or mN/m)	Not Applicable
Lower Explosive Limit (%)	Not Applicable	Volatile Component (%vol)	Not Applicable
Vapour pressure (kPa)	Not Applicable	Gas group	Not Available
Solubility in water (g/L)	Immiscible	pH as a solution (1%)	Not Applicable
Vapour density (Air = 1)	Not Applicable	VOC g/L	Not Available

9.2. Other information

Not Available

SECTION 10 STABILITY AND REACTIVITY

10.1.Reactivity	See section 7.2
10.2.Chemical stability	Product is considered stable and hazardous polymerisation will not occur.
10.3. Possibility of hazardous reactions	See section 7.2
10.4. Conditions to avoid	See section 7.2
10.5. Incompatible materials	See section 7.2
10.6. Hazardous decomposition products	See section 5.3

SECTION 11 TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Inhaled	The material is not thought to produce either adverse health effects or irritation of the respiratory tract following inhalation (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.			
Ingestion	Accidental ingestion of the material may be damaging to the health of the individual.			
Skin Contact	The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting. Irritation and skin reactions are possible with sensitive skin Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.			
Еуе	Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).			
Chronic	Long-term exposure to the product is not thought to produce nevertheless exposure by all routes should be minimised as a	chronic effects adverse to health (as classified by EC Directives using animal models); matter of course.		
Permite; Lojic +; GS-80; GS-80 Spherical; F400; New Ultrafine; SDI Admix; SDI Spherical; SDI Alloy, and Ultratabs- Alloy powder and Tablets	TOXICITY IRRITATION Not Available Not Available			
silver	TOXICITY Oral (rat) LD50: >2000 mg/kg ^[1]	IRRITATION Not Available		
tin	tin TOXICITY IRRITATION dermal (rat) LD50: >2000 mg/kg ^[1] Not Available Oral (rat) LD50: >2000 mg/kg ^[1] Not Available			
copper	TOXICITY dermal (rat) LD50: >2000 mg/kg ^[1] Inhalation (rat) LC50: 0.733 mg/l4 h ^[1] Inhalation (rat) LC50: 1.03 mg/l4 h ^[1] Inhalation (rat) LC50: 1.67 mg/l4 h ^[1] Oral (rat) LD50: 300-500 mg/kg ^[1]	IRRITATION Nil Reported		
indium	TOXICITY Not Available	IRRITATION Not Available		

Version No: **6.1.1.1** Page **7** of **13** Issue Date: 12/01/2016 Print Date: 23/03/2016

Permite; Lojic +; GS-80; GS-80 Spherical; F400; New Ultrafine; SDI Admix; SDI Spherical; SDI Alloy, and Ultratabs- Alloy powder and Tablets

	TOXICITY	IRRITATION	
zinc	Dermal (rabbit) LD50: 1130 mg/kg ^[2]	Not Available	
	Oral (rat) LD50: >2000 mg/kg ^[1]		
Legend:	1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances		
COPPER	for copper and its compounds (typically copper chloride): Acute toxicity: There are no reliable acute oral toxicity results available. In an acute dermal toxicity study (OECD TG 402), one group of 5 male rats and 5 groups of 5 female rats received doses of 1000, 1500 and 2000 mg/kg bw via dermal application for 24 hours. The LD50 values of copper monochloride were 2,000 mg/kg bw or greater for male (no deaths observed) and 1,224 mg/kg bw for female. Four females died at both 1500 and 2000 mg/kg bw, and one at 1,000 mg/kg bw. Symptom of the hardness of skin, an exudation of hardness site, the formation of scar and reddish changes were observed on application sites in all treated animals. Skin inflammation and injury were also noted. In addition, a reddish or black urine was observed in females at 2,000, 1,500 and 1,000 mg/kg bw. Female rats appeared to be more sensitive than male based on mortality and clinical signs. No reliable skin/eye irritation studies were available. The acute dermal study with copper monochloride suggests that it has a potential to cause skin irritation. Repeat dose toxicity: In repeated dose toxicity study performed according to OECD TG 422, copper monochloride was given orally (gavage) to Sprague-Dawley rats for 30 days to males and for 39 - 51 days to females at concentrations of 0, 1.3, 5.0, 20, and 80 mg/kg bw/day. The NOAEL value was 5 and 1.3 mg/kg bw/day for male and female rats, respectively. No deaths were observed in male rats. One treatment-related death was observed in female rats in the high dose group. Erythropoietic toxicity (anaemia) was seen in both sexes at the 80 mg/kg bw/day. The frequency of squamous cell hyperplasia of the forestomach was increased in a dose-dependent manner in male and female rats at all treatment groups, and was statistically significant in males at doses of =5 mg/kg bw/day doses. The observed effects are considered to be local, non-systemic effect on the forestomach which result from oral (gavage) administration of copper monochloride. Genoto		
ZINC	The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.		
TIN & INDIUM	No significant acute toxicological data identified in literature search.		
Acute Toxicity		arcinogenicity	0
Skin Irritation/Corrosion	⊗ R	eproductivity	0
Serious Eye Damage/Irritation	○ STOT - Sir	ngle Exposure	0
Respiratory or Skin sensitisation	○ STOT - Repea	ted Exposure	0
Mutagenicity	○ Aspi	ration Hazard	0

Legend:

X − Data available but does not fill the criteria for classification
 ✓ − Data required to make classification available

O – Data Not Available to make classification

SECTION 12 ECOLOGICAL INFORMATION

12.1. Toxicity

Ingredient	Endpoint	Test Duration (hr)	Species	Value	Source
silver	BCF	336	Crustacea	0.02mg/L	4
silver	EC50	48	Crustacea	0.00024mg/L	4
silver	EC50	96	Algae or other aquatic plants	0.001628837mg/L	4
silver	LC50	96	Fish	0.0012mg/L	2
silver	NOEC	480	Crustacea	0.00031mg/L	2
tin	EC50	48	Crustacea	0.00018mg/L	5
tin	LC50	96	Fish	>0.0124mg/L	2
tin	NOEC	168	Crustacea	<0.005mg/L	2
tin	EC50	72	Algae or other aquatic plants	>0.0192mg/L	2
copper	BCF	960	Fish	200mg/L	4
copper	EC50	72	Algae or other aquatic plants	0.013335mg/L	4
copper	NOEC	96	Crustacea	0.0008mg/L	4
copper	EC50	48	Crustacea	0.001mg/L	5
copper	EC50	96	Crustacea	0.001mg/L	5

Version No: 6.1.1.1 Page **8** of **13** Issue Date: 12/01/2016

Permite; Lojic +; GS-80; GS-80 Spherical; F400; New Ultrafine; SDI Admix; SDI Spherical; SDI Alloy, and Ultratabs- Alloy powder and Tablets

copper	LC50	96	Fish	0.0028mg/L	2
zinc	BCF	360	Algae or other aquatic plants	9mg/L	4
zinc	EC50	72	Algae or other aquatic plants	0.106mg/L	4
zinc	LC50	96	Fish	0.00272mg/L	4
zinc	EC50	120	Fish	0.00033mg/L	5
zinc	EC50	48	Crustacea	0.04mg/L	5
zinc	NOEC	72	Algae or other aquatic plants	0.000084981mg/L	2
Legend:	Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data				

DO NOT discharge into sewer or waterways.

12.2. Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air	
	No Data available for all ingredients	No Data available for all ingredients	

12.3. Bioaccumulative potential

Ingredient	Bioaccumulation
	No Data available for all ingredients

12.4. Mobility in soil

Ingredient	Mobility
	No Data available for all ingredients

12.5. Results of PBT and vPvB assessment

	P	В	Т
Relevant available data	Not Available	Not Available	Not Available
PBT Criteria fulfilled?	Not Available	Not Available	Not Available

12.6. Other adverse effects

No data available

SECTION 13 DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Product / Packaging disposal	Consult State Land Waste Management Authority for disposal. DO NOT allow wash water from cleaning or process equipment to enter drains. It may be necessary to collect all wash water for treatment before disposal. In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. Where in doubt contact the responsible authority.
Waste treatment options	Not Available
Sewage disposal options	Not Available

SECTION 14 TRANSPORT INFORMATION

Labels Required

anoio itoquii ou	
Marine Pollutant	NO
HAZCHEM	Not Applicable

Land transport (ADR): NO	Land transport (ADR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS			
14.1.UN number	Not Applicable			
14.2.Packing group	Not Applicable			
14.3.UN proper shipping name	Not Applicable			
14.4.Environmental hazard	Not Applicable			
14.5. Transport hazard class(es)	Class Not Applicable Subrisk Not Applicable			
14.6. Special precautions for user	Hazard identification (Kemler) Classification code Hazard Label Special provisions	Not Applicable Not Applicable Not Applicable Not Applicable		

Version No: **6.1.1.1** Page **9** of **13** Issue Date: **12/01/2016**

Permite; Lojic +; GS-80; GS-80 Spherical; F400; New Ultrafine; SDI Admix; SDI Spherical; SDI Alloy, and Ultratabs- Alloy powder and Tablets

Limited quantity Not Applicable Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS 14.1. UN number Not Applicable 14.2. Packing group Not Applicable 14.3. UN proper shipping Not Applicable 14.4. Environmental hazard Not Applicable ICAO/IATA Class Not Applicable 14.5. Transport hazard ICAO / IATA Subrisk Not Applicable class(es) **ERG** Code Not Applicable Special provisions Not Applicable Cargo Only Packing Instructions Not Applicable Cargo Only Maximum Qty / Pack Not Applicable 14.6. Special precautions for Passenger and Cargo Packing Instructions Not Applicable Passenger and Cargo Maximum Qty / Pack Not Applicable Passenger and Cargo Limited Quantity Packing Instructions Not Applicable Passenger and Cargo Limited Maximum Qty / Pack Not Applicable Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS 14.1. UN number Not Applicable 14.2. Packing group Not Applicable 14.3. UN proper shipping Not Applicable name 14.4. Environmental hazard Not Applicable IMDG Class Not Applicable 14.5. Transport hazard class(es) IMDG Subrisk Not Applicable **EMS Number** Not Applicable 14.6. Special precautions for Special provisions Not Applicable usei Limited Quantities Not Applicable Inland waterways transport (ADN): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS 14.1. UN number Not Applicable 14.2. Packing group Not Applicable 14.3. UN proper shipping Not Applicable 14.4. Environmental hazard Not Applicable 14.5. Transport hazard Not Applicable Not Applicable class(es) Not Applicable Classification code Special provisions Not Applicable 14.6. Special precautions for Limited quantity Not Applicable Equipment required Not Applicable Fire cones number Not Applicable

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

SECTION 15 REGULATORY INFORMATION

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

SILVER(7440-22-4) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Version No: **6.1.1.1** Page **10** of **13** Issue Date: **12/01/2016**

Permite; Lojic +; GS-80; GS-80 Spherical; F400; New Ultrafine; SDI Admix; SDI Spherical; SDI Alloy, and Ultratabs- Alloy powder and Tablets

EU European Chemicals Agency (ECHA) Community Rolling Action Plan (CoRAP) List of Substances

European Customs Inventory of Chemical Substances ECICS (English)

European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)

European Union (EU) Commission Directive 2006/15/EC establishing a second list of indicative occupational exposure limit values (IOELVs)

European Union (EU) Commission Directive 2006/15/EC establishing a second list of indicative occupational exposure limit values (IOELVs) (Spanish)

European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Bulgarian)

European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Czech)

(Czechi)

European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs)
(Danish)

European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs)
(Dutch)

European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (English)

European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Estonian)

European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Finnish)

European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (French)

European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (German)

European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Greek)

European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Hungarian)

Print Date: 23/03/2016

European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Italian)

European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Latvian)

European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Lithuanian)

European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Maltese)

European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Polish)

European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Portuguese)

(Foliaguese)

European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs)

(Romanian)

European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs)

(Slovak)
European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs)

(Slovenian)
European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Spanish)

European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (Swedish)

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

UK Workplace Exposure Limits (WELs)

TIN(7440-31-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS

EU Consolidated List of Indicative Occupational Exposure Limit Values (IOELVs)
EU Directive 91/322/EEC Indicative Occupational Exposure Limit Values (IOELVs)
European Customs Inventory of Chemical Substances ECICS (English)

European Trade Union Confederation (ETUC) Priority List for REACH Authorisation European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)

COPPER(7440-50-8) IS FOUND ON THE FOLLOWING REGULATORY LISTS

European Customs Inventory of Chemical Substances ECICS (English)

European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs $\,$

UK Workplace Exposure Limits (WELs)

INDIUM(7440-74-6) IS FOUND ON THE FOLLOWING REGULATORY LISTS

EU REACH Regulation (EC) No 1907/2006 - Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

European Customs Inventory of Chemical Substances ECICS (English)

European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

UK Workplace Exposure Limits (WELs)

ZINC(7440-66-6) IS FOUND ON THE FOLLOWING REGULATORY LISTS

EU REACH Regulation (EC) No 1907/2006 - Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles European Customs Inventory of Chemical Substances ECICS (English)

European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)

European Union (EU) Annex I to Directive 67/548/EEC on Classification and Labelling of Dangerous Substances - updated by ATP: 31

European Union (EU) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

This safety data sheet is in compliance with the following EU legislation and its adaptations - as far as applicable - : 67/548/EEC, 1999/45/EC, 98/24/EC, 92/85/EC, 94/33/EC, 91/689/EEC, 1999/13/EC, Commission Regulation (EU) 2015/830, Regulation (EC) No 1272/2008 and their amendments as well as the following British legislation: - The Control of Substances Hazardous to Health Regulations (COSHH) 2002 - COSHH Essentials - The Management of Health and Safety at Work Regulations 1999

15.2. Chemical safety assessment

For further information please look at the Chemical Safety Assessment and Exposure Scenarios prepared by your Supply Chain if available

ECHA SUMMARY

Ingredient	CAS number	Index No	ECHA Dossier	
silver	7440-22-4 Not Available		01-2119555669-21-XXXX	
Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)		Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Aquatic Acute 1, Aquatic Chronic 1		GHS09, Wng	H319, H335, H372, H314, H317, H370, H332
2	Not Classified, Aquatic Acute 1, Aquatic Ch Skin Sens. 1, STOT SE 1, STOT RE 1, Acu	nronic 1, Skin Irrit. 2, Eye Irrit. 2, STOT SE 3, te Tox. 4	GHS09, Wng, GHS08, Dgr, GHS05	H319, H335, H372, H314, H317, H370, H332

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No		ECHA Dossier	
tin	7440-31-5	Not Available		01-2119486474-28-XXXX	
Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)		Pictogra	ams Signal Word Code(s)	Hazard Statement Code(s)

Version No: **6.1.1.1** Page **11** of **13** Issue Date: **12/01/2016**

Permite; Lojic +; GS-80; GS-80 Spherical; F400; New Ultrafine; SDI Admix; SDI Spherical; SDI Alloy, and Ultratabs- Alloy powder and Tablets

1	Not Classified	Wng, GHS09, GHS02, GHS06, GHS05, GHS03, GHS08, Dgr	H319, H335, H302, H315, H331, H311, H372, H228, H260, H334
2	Not Classified, Eye Irrit. 2, STOT SE 3, Acute Tox. 4, Aquatic Chronic 4, STOT RE 1. Flam. Sol. 1. Flam. Sol. 2. Skin Irrit. 2. Resp. Sens. 1	Wng, GHS09, GHS02, GHS06, GHS05, GHS03, GHS08, Dar	H319, H335, H302, H315, H331, H311, H372, H228, H260, H334

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
copper	7440-50-8	Not Available	01-2119480154-42-XXXX, 01-2119480184-39-XXXX

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Not Classified	GHS09, Dgr, GHS06, GHS08, Wng, GHS02, GHS07	H371, H315, H319, H335, H228, H300, H317, H330, H372, H361, H302, H332, H351, H360, H373
2	Not Classified, Acute Tox. 4, Aquatic Acute 1, Aquatic Chronic 2, Aquatic Chronic 3, Acute Tox. 3, STOT SE 2, Skin Irrit. 2, Eye Irrit. 2, STOT SE 3, Aquatic Chronic 1, Aquatic Chronic 4, Flam. Sol. 2, Flam. Sol. 1, Acute Tox. 2, Skin Sens. 1, STOT RE 1, STOT RE 2, Repr. 2	GHS09, Dgr, GHS06, GHS08, Wng, GHS02	H371, H315, H319, H335, H228, H300, H317, H330, H372, H361
1	Acute Tox. 4, Carc. 2, Repr. 1A, STOT RE 2, Aquatic Chronic 2	GHS07, GHS09, GHS08, Dgr	H302, H332, H351, H360, H373
2	Acute Tox. 4, Carc. 2, Repr. 1A, STOT RE 2, Aquatic Chronic 2	GHS09, GHS08, Dgr	H302, H332, H351, H360, H373

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
indium	7440-74-6	Not Available	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Not Classified	GHS02, Dgr, Wng, GHS06, GHS09, GHS05, GHS03, GHS08	H228, H302, H315, H319, H335, H331, H311, H372
2	Not Classified, Flam. Sol. 1, Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, STOT SE 3, STOT RE 1, Flam. Sol. 2	GHS02, Dgr, Wng, GHS06, GHS09, GHS05, GHS03, GHS08	H228, H302, H315, H319, H335, H331, H311, H372

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

Ingredient	CAS number	Index No	ECHA Dossier
zinc	7440-66-6	030-001-00-1, 030-001-01-9	01-2119467174-37-XXXX, 01-2119459210-49-XXXX

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
2	Not Classified, Pyr. Sol. 1, Water-react. 1, Aquatic Acute 1, Aquatic Chronic 1, Aquatic Chronic 4, Self-heat. 2, Water-react. 3, Flam. Sol. 1, Pyr. Liq. 1, Self-heat. 1, Water-react. 2, Skin Irrit. 2, Eye Irrit. 2, STOT SE 3	GHS09, Dgr, Wng, GHS01, GHS06, GHS05	H250, H260, H315, H331, H302, H311, H228, H251, H319, H335
2	Not Classified, Pyr. Sol. 1, Water-react. 1, Aquatic Acute 1, Aquatic Chronic 1, Aquatic Chronic 4, Self-heat. 2, Water-react. 3, Flam. Sol. 1, Pyr. Liq. 1, Self-heat. 1, Water-react. 2, Skin Irrit. 2, Eye Irrit. 2, STOT SE 3	GHS09, Dgr, Wng, GHS01, GHS06, GHS05	H250, H260, H315, H331, H302, H311, H228, H251, H319, H335
1	Skin Irrit. 2, Eye Irrit. 2	GHS07, Wng	H315, H319
2	Skin Irrit. 2, Eye Irrit. 2	GHS07, Wng	H315, H319

Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.

National Inventory	Status
Australia - AICS	Y
Canada - DSL	Y
Canada - NDSL	N (zinc; indium; copper; tin; silver)
China - IECSC	Y
Europe - EINEC / ELINCS / NLP	Y
Japan - ENCS	N (zinc; indium; copper; tin; silver)
Korea - KECI	Υ
New Zealand - NZIoC	Υ
Philippines - PICCS	Y
USA - TSCA	Υ
Legend:	Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)

SECTION 16 OTHER INFORMATION

Full text Risk and Hazard codes

H228	Flammable solid.
H250	Catches fire spontaneously if exposed to air.

Version No: **6.1.1.1** Page **12** of **13** Issue Date: **12/01/2016**

Permite; Lojic +; GS-80; GS-80 Spherical; F400; New Ultrafine; SDI Admix; SDI Spherical; SDI Alloy, and Ultratabs- Alloy powder and Tablets

H251	Self-heating: may catch fire.		
H260	· ,		
	In contact with water releases flammable gases which may ignite spontaneously.		
H300	Fatal if swallowed.		
H302	Harmful if swallowed.		
H311	Toxic in contact with skin.		
H314	Causes severe skin burns and eye damage.		
H315	Causes skin irritation.		
H317	May cause an allergic skin reaction.		
H319	Causes serious eye irritation.		
H330	Fatal if inhaled.		
H331	Toxic if inhaled.		
H332	Harmful if inhaled.		
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.		
H335	May cause respiratory irritation.		
H351	Suspected of causing cancer.		
H360	May damage fertility or the unborn child.		
H361	Suspected of damaging fertility or the unborn child.		
H370	Causes damage to organs.		
H371	May cause damage to organs.		
H372	Causes damage to organs.		
H373	May cause damage to organs.		
H400	Very toxic to aquatic life.		
H410	Very toxic to aquatic life with long lasting effects.		
R11	Highly flammable.		
R15	Contact with water liberates extremely flammable gases.		
R17	Spontaneously flammable in air.		
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.		
R52	Harmful to aquatic organisms.		

Other information

DSD / DPD label elements

Not Applicable

Relevant risk statements are found in section 2.1

Indication(s) of danger	Not Applicable

SAFETY ADVICE

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by SDI Limited using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

For detailed advice on Personal Protective Equipment, refer to the following EU CEN Standards:

EN 166 Personal eye-protection

EN 340 Protective clothing

EN 374 Protective gloves against chemicals and micro-organisms

EN 13832 Footwear protecting against chemicals

EN 133 Respiratory protective devices

Definitions and abbreviations

PC – TWA: Permissible Concentration-Time Weighted Average

PC-STEL: Permissible Concentration-Short Term Exposure Limit

IARC: International Agency for Research on Cancer

ACGIH: American Conference of Governmental Industrial Hygienists

STEL: Short Term Exposure Limit

TEEL: Temporary Emergency Exposure Limit。

IDLH: Immediately Dangerous to Life or Health Concentrations

OSF: Odour Safety Factor

NOAEL :No Observed Adverse Effect Level

LOAEL: Lowest Observed Adverse Effect Level

TLV: Threshold Limit Value

LOD: Limit Of Detection

OTV: Odour Threshold Value

BCF: BioConcentration Factors

BEI: Biological Exposure Index

The information contained in the Safety Data Sheet is based on data considered to be accurate, however, no warranty is expressed or implied regarding the accuracy of the data or the results to be obtained from the use thereof.

Other information:

Version No: 6.1.1.1 Page 13 of 13 Issue Date: 12/01/2016

Permite: Lojic +: GS-80: GS-80 Spherical: E4/00: New Ultrafine: SDI Admix: SDI Spherical: SDI

Print Date: 23/03/2016

Permite; Lojic +; GS-80; GS-80 Spherical; F400; New Ultrafine; SDI Admix; SDI Spherical; SDI Alloy, and Ultratabs- Alloy powder and Tablets

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