Safety Data Sheet

TINNING BERA™

Replaces date: 28/06/2022

Revision date: 01/12/2022
Version: 4.1.0

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

1.1. Product identifier

Trade name: TINNING BERA™

UFI: E190-J0QS-M008-9KK1

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

Recommended uses: Tinning.

1.3. Details of the supplier of the safety data sheet

Supplier

Company:	Boliden Bergsøe A/S
Address:	Hvissingevej 116
Zip code:	2600
City:	Glostrup
Country:	DENMARK
E-mail:	environment.glostrup@boliden.com
Phone:	+45 43268300

1.4. Emergency Telephone Number

+45 43 26 83 00 (company)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

CLP-classification:
Acute Tox. 4;H302
Skin Corr. 1B;H314
Eye Dam. 1;H318
Aquatic Acute 1;H400
Aquatic Chronic 1;H410

Most serious harmful effects: Harmful if swallowed. Causes severe skin burns and eye damage. Very toxic to aquatic life with long lasting effects. Harmful if vapours from molten metal are inhaled or if the skin comes in contact with molten metal.

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2.2. Label elements

Pictograms

Signal word: Danger

Contains

Substance: Diammonium tetrachlorozincate(2-);

Hazard Statements

H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statements

P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P303+361+353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor.
P501	Dispose of contents/container in accordance with local regulation.

2.3. Other hazards

The product does not contain any PBT or vPvB substances.
Endocrine disrupting properties: None known.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Substance	CAS No./ EC No./ REACH Reg. No.	Concentration	Notes	CLP-classification
Tin	7440-31-5 231-141-8 01-2119486474-28-xxxx	45 - 55 %		
Diammonium tetrachlorozincate(2-)	14639-97-5 238-687-6	45 - 55 %		Acute Tox. 4;H302 Skin Corr. 1;H314 Aquatic Acute 1;H400 Aquatic Chronic 1;H410

Please see section 16 for the full text of H- / EUH-phrases.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation: Seek fresh air. Seek medical advice in case of persistent discomfort.

Ingestion: Wash out mouth thoroughly and drink 1-2 glasses of water in small sips. Do not induce vomiting. Seek medical advice immediately.

Skin contact: Immediately remove contaminated clothing. Wash the skin thoroughly with water and continue washing for a long time. Seek medical advice immediately.

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Eye contact:	Open eye wide, remove any contact lenses and flush immediately with water (preferably using eye wash equipment). Seek medical advice immediately. Continue flushing until medical attention is obtained.
General:	When obtaining medical advice, show the safety data sheet or label.

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

Harmful if swallowed. Ingestion may cause caustic burning in mouth, aesophagus and stomach. Pains in mouth, throat and stomach. Difficulty swallowing, feeling unwell and vomiting of blood. Brown spots and burns may appear in and around the mouth. Has a caustic burning effect and causes burning pain, reddening, blistering and burning sores if it comes in contact with skin. Eye contact may result in deep caustic burns, pain, tearing and cramping of the eyelids. Risk of serious eye injury and loss of sight. Inhalation is irritating to the upper airways. Harmful if vapours from molten metal are inhaled or if the skin comes in contact with molten metal.

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

Treat symptoms. No special immediate treatment required. Ensure that medical personnel are aware of the material involved, and take precautions to protect themselves.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:	Extinguish with powder, foam, carbon dioxide or water mist. Use water or water mist to cool non-ignited stock.
Unsuitable extinguishing media:	Do not use water stream, as it may spread the fire.

5.2. Special hazards arising from the substance or mixture

The product is not directly flammable. Avoid inhalation of vapour and fumes - seek fresh air. Product decomposes in fire conditions or when heated to high temperatures, and inflammable and toxic gases may be released.

5.3. Advice for firefighters

Move containers from danger area if it can be done without risk. Avoid inhalation of vapour and flue gases - seek fresh air. Wear Self-Contained Breathing Apparatus (SCBA) with a chemical protection suit. Extinguishing water which has been in contact with the product may be corrosive.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel:	Wear respiratory protective equipment. Wear safety goggles/face protection. Wear gloves. Stay upwind/keep distance from source. Stop leak if this can be done without risk.
For emergency responders:	In addition to the above: Chemical protective suit equivalent to EN 943-2 is recommended.

6.2. Environmental precautions

Prevent spillage from entering drains and/or surface water.

6.3. Methods and material for containment and cleaning up

Sweep up/collect spills for possible reuse or transfer to suitable waste containers. Wipe up minor spills with a damp cloth. Caution! Causes burns. Rinse with water.

6.4. Reference to other sections

See section 8 for type of protective equipment. See section 13 for instructions on disposal.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Running water and eye wash equipment must be available. Wash hands before breaks, before using restroom facilities, and at the end of work. Work under effective process ventilation (e.g. local exhaust ventilation).

7.2. Conditions for safe storage, including any incompatibilities

Store safely, out of reach of children and away from food, animal feeding stuffs, medicines, etc. Store in a dry, cool, well-ventilated area. Keep in tightly closed original packaging.

7.3. Specific end use(s)

None.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limit: Contains no substances subject to reporting requirements.

Measuring methods: Compliance with occupational exposure limits may be checked by occupational hygiene measurements.

Legal basis: Commission Directive 2000/39/EC (Occupational Exposure Limits) as subsequently amended. Last amended by Commission Directive 2019/1831/EU. Directive 2004/37/EC (Exposure to carcinogens or mutagens at work) as subsequently amended. Last amended by Directive 2022/431/EU. Resolution 2019/2182(INL) (Protecting workers from asbestos) as subsequently amended. Last amended by resolution 2022/C 184/03.

8.2. Exposure controls

Appropriate engineering controls: Wear the personal protective equipment specified below.

Personal protective equipment, eye/face protection: Wear safety goggles/face protection. Eye protection must conform to EN 166.

Personal protective equipment, hand protection: Wear gloves. Type of material: Plastic/ Rubber. Breakthrough time has not been determined for the product. Change gloves often. Gloves must conform to EN 374.
The suitability and durability of a glove is dependant on usage, e.g. frequency and duration of contact, glove material thickness, functionality and chemical resistance. Always seek advice from the glove supplier.

Personal protective equipment, respiratory protection: Light use (small volume, shortterm contact (below 10 min.)): Not required.
Medium use (medium volume, medium contact (1-2 hours)): Wear respiratory protective equipment. Filter type: B/P3 Respiratory protection must conform to one of the following standards: EN 136/140/145.

Environmental exposure controls: Ensure compliance with local regulations for emissions.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Parameter	Value/unit
State	Powder
Colour	Grey
Odour	Odourless
Solubility	Miscible

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Parameter	Value/unit	Remarks
Odour threshold	No data	
Melting point	238 °C	
Freezing point	238 °C	
Initial boiling point and boiling range	No data	
Flammability (solid, gas)	No data	
Flammability limits	No data	
Explosion limits	No data	
Flash Point	No data	
Auto-ignition temperature	No data	
Decomposition temperature:	No data	
pH (solution for use)	No data	
pH (concentrate)	No data	
Kinematic viscosity	No data	
Viscosity	No data	
Partition coefficient n-octonol/water	No data	
Vapour pressure	No data	
Density	No data	
Relative density	No data	
Relative vapour density	No data	
Relative density (sat. air)	No data	
Particle characteristics	No data	

9.2. Other information

Other Information: None.

SECTION 10: Stability and reactivity

10.1. Reactivity

Not reactive.

10.2. Chemical stability

The product is stable when used in accordance with the supplier's directions.

10.3. Possibility of hazardous reactions

None known.

10.4. Conditions to avoid

Avoid heating and contact with ignition sources.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

Product decomposes in fire conditions or when heated to high temperatures, and inflammable and toxic gases may be released.

SECTION 11: Toxicological information

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

Acute toxicity - oral:	Harmful if swallowed.
Acute toxicity - dermal:	The product does not have to be classified. Test data are not available.
Acute toxicity - inhalation:	The product does not have to be classified. Test data are not available.
Skin corrosion/irritation:	Has a caustic burning effect and causes burning pain, reddening, blistering and burning sores if it comes in contact with skin.
Serious eye damage/eye irritation:	Eye contact may result in deep caustic burns, pain, tearing and cramping of the eyelids. Risk of serious eye injury and loss of sight.
Respiratory sensitisation or skin sensitisation:	The product does not have to be classified. Test data are not available.
Germ cell mutagenicity:	The product does not have to be classified. Test data are not available.
Carcinogenic properties:	The product does not have to be classified. Test data are not available.
Reproductive toxicity:	The product does not have to be classified. Test data are not available.
Single STOT exposure:	Test data are not available. The product does not have to be classified. Inhalation is irritating to the upper airways. Inhalation of smoke from the soldering / welding process may cause irritation to the upper airways. May cause a burning sensation in the nose, mouth and throat, as well as headaches, coughing and discomfort.
Repeated STOT exposure:	The product does not have to be classified. Test data are not available. Prolonged inhalation may cause water in the lungs.
Aspiration hazard:	The product does not have to be classified. Test data are not available.

11.2. Information on other hazards

Endocrine disrupting properties:	None known.
Other toxicological effects:	Ingestion may cause caustic burning in mouth, aesophagus and stomach. Pains in mouth, throat and stomach. Difficulty swallowing, feeling unwell and vomiting of blood. Brown spots and burns may appear in and around the mouth.

SECTION 12: Ecological information

12.1. Toxicity

Very toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

Test data are not available.

12.3. Bioaccumulative potential

No bioaccumulation expected.

12.4. Mobility in soil

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Test data are not available.

12.5. Results of PBT and vPvB assessment

The product does not contain any PBT or vPvB substances.

12.6. Endocrine disrupting properties

None known.

12.7. Other adverse effects

None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Avoid discharge to drain or surface water.
If this product as supplied becomes a waste, it meets the criteria of a hazardous waste (Dir. 2008/98/EU). Collect spills and waste in closed, leak-proof containers for disposal at the local hazardous waste site.
Empty, cleansed packaging should be disposed of for recycling. Uncleansed packaging is to be disposed of via the local waste-removal scheme.

Category of waste:

EWC code: Depends on line of business and use, for instance 17 04 07 mixed metals
Absorbent/cloth contaminated with the product: 15 02 02* absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by hazardous substances

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:	1759	**14.4. Packing group:**	III
14.2. UN proper shipping name:	CORROSIVE SOLID, N.O.S. (Diammonium tetrachlorozincate(2-))	**14.5. Environmental hazards:**	The product must be labelled as an environmental hazard (symbol: fish and tree) in packaging sizes of more than 5 kg/l.
14.3. Transport hazard class(es):	8		
Hazard label(s):	8		
Hazard identification number:	80	**Tunnel restriction code:**	E

Inland water ways transport (ADN)

14.1. UN number or ID number:	1759	**14.4. Packing group:**	III
14.2. UN proper shipping name:	CORROSIVE SOLID, N.O.S. (Diammonium tetrachlorozincate(2-))	**14.5. Environmental hazards:**	The product must be labelled as an environmental hazard (symbol: fish and tree) in packaging sizes of more than 5 kg/l.
14.3. Transport hazard class(es):	8		
Hazard label(s):	8		
Transport in tank vessels:	Not applicable.		

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Sea transport (IMDG)

14.1. UN number or ID number:	1759	**14.4. Packing group:**	III
14.2. UN proper shipping name:	CORROSIVE SOLID, N.O.S. (Diammonium tetrachlorozincate(2-))	**14.5. Environmental hazards:**	The product must be labelled as a Marine Pollutant (MP) in packaging sizes of more than 5 kg/l.
14.3. Transport hazard class(es):	8	**Environmental Hazardous Substance Name(s):**	
Hazard label(s):	8		
EmS:	F-A, S-B	**IMDG Code segregation group:**	Segr. grp. 1 - Acids (SGG1)

Air transport (ICAO-TI / IATA-DGR)

14.1. UN number or ID number:	1759	**14.4. Packing group:**	III
14.2. UN proper shipping name:	CORROSIVE SOLID, N.O.S. (Diammonium tetrachlorozincate(2-))	**14.5. Environmental hazards:**	
14.3. Transport hazard class(es):	8		
Hazard label(s):	8		

14.6. Special precautions for user

None.

14.7. Maritime transport in bulk according to IMO instruments

Not applicable.

SECTION 15: Regulatory information

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

Special Provisions: Special care should be applied for employees under the age of 18. Young people under the age of 18 may not carry out any work causing harmful exposure to this product.

Covered by:
Council Directive (EC) on the protection of young people at work.

15.2. Chemical Safety Assessment

REACH Reg. No.	Substance name
01-2119486474-28-xxxx	Tin

SECTION 16: Other information

Version history and indication of changes

Version	Revision date	Responsible	Changes
4.1.0	01/12/2022	Bureau Veritas HSE / MPE	1, 2, 16

Abbreviations: PBT: Persistent, Bioaccumulative and Toxic
vPvB: Very Persistent and Very Bioaccumulative
STOT: Specific Target Organ Toxicity

Other Information: This safety data sheet has been prepared for and applies to this product only. It is based on our current knowledge and the information that the supplier was able to provide about the product at the time of preparation. The safety data sheet complies with applicable law on preparation of safety data sheets in accordance with 1907/2006/EC (REACH) as subsequently changed.

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Safety Data Sheet

TINNING BERA™

Training advice: A thorough knowledge of this safety data sheet should be a prerequisite condition.

Classification method: Calculation based on the hazards of the known components.

Hazard statements

H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

SDS is prepared by

Company:	Bureau Veritas HSE Denmark A/S
Address:	Oldenborggade 25-31
Zip code:	7000
City:	Fredericia
Country:	DENMARK
E-mail:	infohse@bureauveritas.com
Phone:	+45 77 31 10 00
Homepage:	www.bureauveritas.dk

Country: EU

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