MATERIAL SAFETY DATA SHEET

The date of preparation July 8,2011
Revised date

1. IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND THE SUPPLIER

Product identifier	CERASOLZER 186
Manufacturer	Senju Metal Industry Co., Ltd.
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Department in charge	International Business Dept.
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Recommended use and restrictions on use
General industrial products
Supply form Bar, Wire, Thread, Ingotl

2. HAZARD IDENTIFICATION

GHS classification

Flammable liquids:	No classification
Acute toxicity	
Oral:	Not classified
Dermal:	Classification not possible
Inharation(Gases):	No classification
Inharation(Vapours):	No classification
Inharation(Dusts/Mists):	Not classified
Skin corrosion/Irritation:	Not classified
Serious eye damage/eye irritation:	Not classified
Sensitization	
Respiratory:	Classification not possible
Skin:	Not classified
Germ cell mutagenicity:	Category 2
Carcinogenicity:	Category 2
Reproductive toxicity:	Category 1
Specific target organ systemic toxicity (Single exposure):	Classification not possible
Specific target organ systemic toxicity (Repeated exposure):	Category1(cardiovascular,kidney,hematopoietic system,central nervous systems,lungs,peripheral nervous system,immune system),Category2(respiratory)
Aspiration hazard	
Acute hazard:	Category 3
Chronic hazard:	Category 3

GHS label elements

Danger

Hazard Statement:

Suspected of causing genetic defects

Harmful to aquatic life

May damage fertility or the unborn child

Harmful to aquatic life with long lasting effects

Suspected of causing cancer

Cause damage to organs(cardiovascular,kidney,hematopoietic system,central nervous systems,lungs,peripheral nervous system,immune system)through prolonged or repeated exposure

May cause damage to organs(respiratory)through prolonged or repeated exposure

Precautionary statement:

≪Prevention≫

If this is not the intended use, avoid release to the environment.

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

Do not handle until all safety precautions have been read and understood.

Obtain special instructions before use.

Wash hands thoroughly after handling.

Use personal protective equipment as required.

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

≪Response≫

Get medical advice/attention, if you feel unwell.

If exposed or concerned: Get medical advice/attention.

≪Storage≫

Store locked up.

≪Disposal≫

Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards which do not result in classification by the GHS

Hazards:

Unknown

Environmental effects:

Unknown

Physical and chemical hazards:

Under normal handling, the risk of fire is low.

Important symptoms:

No information available

Summary of assumed emergency:

No information available

National or regional information:

Not applicable to the criteria for classification

3. COMPOSITION/INFORMATION ON INGREDIENTS

Classification of the chemical substance or/mixture:

Mixture

Chemical name or common name:

CERASOLZER 186

Chemical formula:

<Tin>

Sn

<Lead>

Pb

<Zinc>

Zn

<Antimony>

Sb

Concentration or concentration range:

Chemical name or common name	Abbreviation	Content(wt%)	Officail gazette control No.		CAS No
			Law Concerning the Examination and Regulation of Manufacture, etc. of Chemical Substances	Industrial Safety and Hygiene Law	
Tin	—	50 ~ 60%	Not applicable	Not applicable	7440-31-5
Lead	—	39%	Not applicable	Not applicable	7439-92-1
Zinc	—	1 ~ 10%	Not applicable	Not applicable	7440-66-6
Antimony	—	1.3%	Not applicable	Not applicable	7440-36-0

Impurities and stabilizing additives which contribute to the classification of GHS:

No information available

4. FIRST-AID MEASURES

IF INHALED:

Gargle sufficiently, and if it is irritating, receive the treatment of a doctor.

IF ON SKIN:

Wash the portion that came into contact with the product well by using soap.

IF IN EYES:

Wash with clean water for several minutes, and after washing thoroughly, in case the eyes are injured, or in case there is irritation, receive the treatment of a doctor as required.

IF SWALLOWED:

Wash inside of the mouth thoroughly with water, and receive the treatment of a doctor as required.

Most important effects and symptoms:

No information available

Protection for first-aid responders:

No information available

Note to physician:

No information available

5. FIRE-FIGHTING MEASURES

Extinguishing media:

Dry chemical or disaster preventive sand

Unsuitable extinguishing media:

Water

Specific hazards arising from the chemical if burning:

There is a risk of generation of irritating fume or toxic fume by fire.

Specific fire fighting measures:

Move mobile container immediately to safe place.

Spray water to the surrounding facilities and cool them.

Special protective equipment for fire fighter:

Depending on the situation, protective equipment such as chemical cartridge respirator for fire-fighting and protective clothing shall be worn.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Wear protective gloves.

Environmental precautions:

Pay attention so that the product does not flow into the sewage or public water area.

Methods and materials for containment and cleaning up:

Sweep up the scattered product and recover into a suitable container.

Prevention of secondary disaster:

No information available

7. HANDLING AND STORAGE

Handling

Appropriate engineering controls:

Carry out equipment countermeasure and have on protective equipment following term of「8. EXPOSURE CONTROL/PERSONAL PROTECTION」.

Local exhaust /Total ventilation:

Provide local ventilation or general ventilation following term of「8. EXPOSURE CONTROL/PERSONAL PROTECTION」.

General precautions:

No information available

Precautions for safe handling:

See the disclaimer of "2. HAZARD IDENTIFICATION".

Storage

Appropriate engineering controls:

No information available

Appropriate storage conditions:

Avoid the following to prevent thermal storage and deterioration: (1) Direct sunlight, (2) High temperature and high humidity, and (3) Outdoor storage. Even when storing the product indoors, avoid places near incandescent lamps, mercury lamps, or other lighting equipment that will emit heat or strong ultraviolet rays. Carefully store the product and avoid piling them too high in order to prevent toppling.

Safe containers and packaging materials:

Appropriate containers and packaging materials

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls:

Install equipment to wash the hands and eyes nearby.

Handling place shall be well ventilated.

In case dust and fumes generate, install a local air exhauster.

Exposure limit:

Lead	0.05mg/m3

Tolerable concentration:

Tin	2(metal)mg/m3	TWA	ACGIH
Tin	2(oxide, inorganic compounds)mg/m3	TWA	ACGIH
Lead	0.1mg/m3		Japan Society for Occupational Health
Lead	0.05mg/m3	TWA	ACGIH
Antimony	0.1mg/m3		Japan Society for Occupational Health
Antimony	0.5mg/m3	TWA	ACGIH

Personal protective equipment

Respiratory protection:

Use a protective mask as required.

Hand protective equipment:

Use protective gloves as required.

Eyes / Face Protection:

Wear protective glasses as required.

Skin and personal protective equipment:

Use work clothes and safety shoes as required.

Appropriate hygiene measures:

After work, wash hands well and gargle before smoking, eating, etc.

Medical examination

Concentration measurement of work environment (lead)

9. PHYSICAL AND CHEMICAL PROPERTIES

Shape:	Solid (metal)
Colour:	Silver-grey
Odour(Odour threshold):	Odorless
pH:	Not applicable

Melting point/Freezing point:

Product	171-185℃

Boiling point:

Tin	2507℃
Lead	1740℃
Zinc	907℃
Antimony	1635℃

Initial boiling point:
Not applicable

Boiling range:
Not applicable

Flash point:
Not applicable

Autogenous ignition temperature:

Zinc	460℃

Flammability (solid, gas):
Not applicable

Lower flammability or explosive limits:
Not applicable

Upper flammability or explosive limits:
Not applicable

Vapor pressure:

Tin	1Pa(1224℃)
Lead	235Pa(1000℃)
Zinc	133Pa(487℃)
Antimony	133Pa(886℃)

Vapor density:

Lead	7.14

Evaporation rate:
Not applicable

Specific gravity (Relative density):

Product	8.39(Specific gravity)

Solubility:
Not applicable

Partition coefficient; n-octanol/water:

Zinc	-0.47

Decomposition temperature:
Not applicable

Other information:
No information available

10. STABILITY AND REACTIVITY

Chemical stability:
Stable at ordinary storage and handling conditions.

Possibility of hazardous reactions:
There is fear of reacting with strong acid or strong alkali.

Conditions to avoid:
Diffusion of dust

Incompatible materials:

Strong acid or strong alkali

Hazardous decomposition products:

No information available

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

Zinc	>2,000mg/kg	Oral rat (LD50)	NITE initial risk assessment report
Zinc	>5,410,000mg/l-4hr	Inhalation rat (LC50)	NITE initial risk assessment report

Skin corrosion/Irritation:

No information available

Serious eye damage/eye irritation:

Zinc Causes eye irritation

Respiratory sensitization/skin sensitization:

No information available

Mutagenicity (Germ cell mutagenicity):

Lead Suspected of causing genetic defects

Carcinogenicity:

Lead Suspected of causing cancer

Reproductive toxicity:

Lead May damage fertility or the unborn child

Specific target organ systemic toxicity - Single exposure:

No information available

Specific target organ systemic toxicity - Repeated exposure:

Tin Causes damage to organ (lung) through prolonged or repeated exposure

Lead Causes damage to organs (hematopoietic system, kidney, central nervous system, peripheral nervous system, cardiovascular system, immune system) through prolonged or repeated exposure

Antimony May cause damage to organ (respiratory organs) through prolonged or repeated exposure

Aspiration hazard:

No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Fish:

No information available

Crustacea:

No information available

Algae:

Zinc	0.15mg/l-72hr	Selenastrum	EHC

Zinc Very toxic to aquatic life with long lasting effects

Zinc Very toxic to aquatic life

Persistence/Degradability:

No information available

Bioaccumulative Potential:

No information available

Mobility in soil:

No information available

Other adverse effects:

Because of many unknown items, do not discard in general environment.

13. DISPOSAL CONSIDERATIONS

Commit disposal to special waste disposal contractors approved by the Metropolitan, Hokkaido, or Prefectural Governors in case of Japan .

Dispose of the container and wrapping material in accordance with the Law related to Disposal of Waste and Cleaning.

14. TRANSPORT INFORMATION

International regulations

UN classification:	Not applicable to the criteria for classification
UN number:	Not applicable to the criteria for classification
UN proper shipping name:	Not applicable to the criteria for classification
Packing group:	Not applicable to the criteria for classification
Marine pollutant:	Not applicable to the criteria for classification

Domestic regulations:

Refer to laws and regulation that are applied.

Special precautions:

No information available

Special precautions and conditions which a user needs to comply with transport:

In case of bulk load, in order to prevent load collapse, keep the stack low or fix the goods in position

In order to prevent mingling of foreign matter, water leakage, and direct rays of the sun, cover the goods with a sheet.

Emergency response guideline number:

No information

15. REGULATORY INFORMATION

<Product>

Lead specified in Japanese Ordinance on the Prevention of Lead Poisoning

Substances to be notified, which are specified in Article 57 Item 2 of the Japanese Law on Industrial Safety and Hygiene

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16. OTHER INFORMATION

References

<Product>

MATERIAL SAFETY DATA SHEET of providing companies

Information on GHS-model MSDS by Japan Advanced Information Center of Safety and Health

GHS classification results by National Institute of Technology and Evaluation

The information contained herein is based on several references and the present state of our knowledge. However the MSDS does not always cover all information about the product,handle the product carefully. The information is intended to ordinary usage, in case of particular handlings, conduct appropriate safety measurements. The information herein is only provision of information,a nd it does not represent a guarantee the properties of the product.

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