

SECTION 1. Product and company identification

1.1. Product Identity – Trade name

**Zinc Titanium sheets and coils**

Polish Classification of Goods and Services (PKWiU): – sheets: 27.43.25-50.21  
 – coils: 27.43.25-50.22

Customs Tariff code: CN 7905 0000

Chemical composition acc: **EN 988:1998**

Primary Zinc acc: **EN 1179:1998**

Commercial form:

Sheets	Thickness	Width	Lenght	Weight kg/1m <sup>2</sup>
Dimensions (mm)	0,55	1000	2000-3000	4,0
	0,60			4,3
	0,65			4,7
	0,70			5,0
	0,80			5,8
	1,00			7,2

Coils	Thickness	Width
Dimensions (mm)	0,60	1000
	0,65	
	0,70	
	0,80	
	1,00	

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

Identified application: **Zinc Titanium sheets and coils** can be used for roof cover, protection building elements (cornices, window sills, façades, balconies, chimneys), gutters and downpipes production.

Advised against application: all others than identified.

1.3. Manufacturer

**ZM SILESIA Spółka Akcyjna**

ul. KONDUKTORSKA 8, 40-155 KATOWICE

tel. +48 32 35 87 400 / +48 32 35 87 420; fax: +48 32 259 83 31

(during office hours: monday-friday 8-16)

e-mail: [biuro@silesiasa.pl](mailto:biuro@silesiasa.pl)

1.4. Alarm telephone number

during office hours: monday-friday: tel. +48 32 35 87 400 or 24h/day: 112 (emergency call)

SECTION 2. Composition / Information on ingredients

2.1. Classification of the substance or mixture

Classification according to Regulation 1272/2008/EC (CLP): Mixture not classified.

2.2. Label elements

Labels elements according to Regulation 1272/2008/EC (CLP): not required

2.3. Other hazards

There is no data on meeting the criteria of PBT or vPvB according to Appendix XIII of Directive 1907/2006 (REACH).

SECTION 3. Hazards identification

3.1. Substances – not applicable

3.2. Mixtures

Ingredient	Content (%)	Registration No.	CAS No.	EC No.	Classification according to Regulation 1272/2008/EC
Copper	0,08÷1	01-2119480154-42	7440-50-8	231-159-6	No data
Titan	0,06÷0,2	01-2119484878-14	7440-32-6	231-32-6	No data
Aluminum	max 0,015	05-2115912328-48	7429-90-5	231-072-3	No data
Zinc	rest	01-2119467174-37	7440-66-6	231-175-3	No data

SECTION 4. First aid measures

4.1. Description of first aid measures

In room temperature zinc wire in metallic form does not constitute a direct hazard to the health of workers, exception for mechanic injuries. Typical first aid should be applied.

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

Not relevant.

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

Rules of conduct in case of other mechanical injuries.

SECTION 5. Fire lighting measures

5.1. Extinguishing media

**Zinc Titanium sheets and coils** is not a flammable material.

5.2. Special hazards arising from the substance or mixture

When zinc is being dissolved in acids, hydrogen is being liberated – there is a danger of explosion.

During burning in temperature >420°C dangerous products containing toxic and irritating smokes and zinc fumes, zinc oxide can be created. One should avoid breathing in the products of burning as they can be hazardous to health.

### 5.3. Advice for firefighters

In case of fire, firefighting agents adequate to burning materials have to be used. Full protective equipment and devices with isolating respiratory tract with independent air circulation should be used. Sewage system, surface water and soil have to be protected against pollution. Water used for putting out the fire has to be treated as a dangerous pollutant and stored in separate containers.

## SECTION 6. Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Not relevant

### 6.2. Environmental precautions

Not relevant

### 6.3. Methods and material for containment and cleaning up

Not relevant

### 6.4. Reference to other sections

Not relevant

## SECTION 7. Handling and storage

### 7.1. Precautions for safe handling

No additional requirements.

### 7.2. Conditions for safe storage, including any incompatibilities

#### Package:

- Sheets are packed on a wooden pallet with a total weight of ca. 500kg or 1 ton
- Sheets are packed on a wooden pallet, depending on weight: In horizontal or vertical position, weight of coils from 100 kg – 5000kg

#### Storage:

- Because of quality storage in dry area, protect against moisture
- Do not store together with acids and strong oxidizing substances
- Do not exceed the maximum load of the storage area

### 7.3. Specific end use(s)

**Zinc Titanium sheets and coils** can be used for roof cover, protection building elements (cornices, window sills, façades, balconies, chimneys), gutters and downpipes production.

## SECTION 8. Exposure controls / Personal protection

### 8.1. Control parameters

Allowable zinc concentration in the effluent:  $2 \text{ mg/dm}^3$



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Allowable zinc concentration in the air:  
Behaviour at cleaning places:

Not applicable  
because of insolubility in water, separation appears in every process of filtration and sedimentation

Exposure limit values:

**Zinc Titanium sheets and coils** creates no chemical threat.

Zinc oxide can arise during re-melting of scrap.

Zinc oxide as zinc smoke:

NDS: 5 mg/m<sup>3</sup>  
NDSCh: 10 mg/m<sup>3</sup>  
NDSP: Not applicable

### Legal basis:

Rozporządzenie Ministra Pracy i Polityki Społecznej z dnia 6 czerwca 2014r. w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia w środowisku pracy (Dz.U. z 2014r. poz.817).

### Monitoring procedure:

**PN-Z-04100-02:1987** Ochrona czystości powietrza. Badania zawartości cynku i jego związków. Oznaczanie tlenku cynkowego na stanowiskach pracy metodą nefelometryczną z chlorowodorkiem dwuantypirylo-metano.

**PN-Z-04100-03:1987** Ochrona czystości powietrza. Badania zawartości cynku i jego związków. Oznaczanie cynku i tlenku cynkowego na stanowiskach pracy metodą absorpcyjnej spektrometrii atomowej.

### DN(M)ELs Workers, by inhalation:

DNEL: 2,5 mg/m<sup>3</sup> (water-soluble zinc salts)  
DNEL: 5 mg/m<sup>3</sup> (weak or water-insoluble zinc salts)

### Workers, orally:

DNEL: 50 mg Zn/day (0,83 mg Zn/kg body mass) (water-soluble zinc salts)  
DNEL: 50 mg Zn/day (0,83 mg Zn/kg body mass) (weak or water-insoluble zinc salts)

### Workers, dermal:

DNEL: 500 mg Zn/day (8,3 mg Zn/kg body mass) (water-soluble zinc salts)  
DNEL: 5000 mg Zn/day (83 mg Zn/kg body mass) (weak or water-insoluble zinc salts)

### DN(M)ELs for general population, Inhalation:

DNEL: 1,3 mg/m<sup>3</sup> (water-soluble zinc salts)  
DNEL: 2,5 mg/m<sup>3</sup> (weak or water-insoluble zinc salts)

### PNEC for aquatic organism:

	<u>value</u>	<u>assessment factor</u>
PNEC in sweet water (µg/L)	20,6 µg resolved Zn/L	1
PNEC in sea water (µg/L)	6,1 µg resolved Zn/L	3

### PNEC for sludge organisms:

	<u>value</u>	<u>assessment factor</u>
PNEC for sweet water sediment	117,8 mg/kg s.m.	1
PNEC for sea water sediment	56,5 mg/kg s.m.	1

### PNEC for soil organisms:

	<u>value</u>	<u>assessment factor</u>
PNEC for soil 35,6	35,6 mg/kg s.m.	1

PNEC for Biological sewage treatment plant organisms:

	<u>value</u>	<u>assessment factor</u>
PNEC for Biological sewage treatment plant organisms	52 µg/L	100

PNEC for terrestrial organisms, oral - secondary poisoning):

Not applicable. Zinc is not bioaccumulating.

**8.2. Exposure controls**

Protective Clothing:

At processing appropriate protective equipment should be used:

- protective clothing
- Protective glover resistant to mechanical damage
- Safety glasses
- Protective face mask

Monitoring of environmental hazards:

Do not allow large amounts of a solution of zinc compounds to enter into the ground water, sewerage waste, water or soil.

■ **SECTION 9. Physical and chemical properties**

**9.1. Information on basic physical and chemical properties**

Appearance: metal, solid

Form: amphoteric

Colour: grey-blue

Odour Threshold: odourless

Odour threshold: undefined

pH value: not applicable

Density (Zn, 20 °C): 7,133 g/cm<sup>3</sup>

Melting / solidification temperature (Zn): about 419,5 °C

Boiling Point (Zn): about 907 °C

Ignition temperature: undefined

Flash point: close to the boiling point

decomposition Temperature: undefined

Lower flammable limit: not applicable

Upper flammable limit: not applicable

Evaporation rate: not applicable

Vapour pressure: 1,33 kPa at 487 °C

Solubility in water (20°C): Insoluble in water

Solubility in acid (20°C): soluble in water

Solubility in basis (20°C): soluble in water

Partition coefficient: n-oktanol/water not applicable

Explosion risk: upon contact with strong acids and strong bases can be formed extremely flammable hydrogen

Explosive properties: fine dust may form explosive mixtures with air

Oxidising properties: possibly in the presence of moisture

## 9.2. Other information

No data

## SECTION 10. Stability and reactivity

### 10.1. Reactivity

Poor.

### 10.2. Chemical stability

**Zinc Titanium sheets and coils** stable under normal conditions.

### 10.3. Possibility of hazardous reactions

By contact with strong acids and strong bases can be formed extremely flammable hydrogen.

### 10.4. Conditions to avoid

Due to the quality of the product – humidity.

### 10.5. Incompatible materials

Avoid contact with strong oxidising agents, alkalis and acids.

### 10.6. Hazardous decomposition products

None.

## SECTION 11. Toxicological information

### 11.1. Information on toxicological effects

**Zinc Titanium sheets and coils** in a fixed form is Non-toxic, and according to EU Directive 1999/45 / EC not classified as dangerous.

Acute Toxicity of zinc and mixtures depends on the zinc compound and hazards.

Poor or water-insoluble zinc salts (eg zinc oxide, zinc metal) are low toxicity by inhalation or dermal exposure and are not classified as dangerous according to EU directives.

Soluble zinc salts have a high toxicity in acute exposure conditions and require consultation following exposure through inhalation.

Following inhalation exposure to aerosols or zinc chloride fumes, may cause respiratory distress (shortness of breath), respiratory tract irritation and throat coughing, chest tightness, nausea, features of acute airway inflammation.

**Inhalation:** Following exposure to dust or fumes of zinc compounds, respiratory tract irritation may occur. Inhalation of zinc fumes may cause zinc fever with symptoms: sweetish taste in the mouth, fever, shivering, headache, fatigue, excessive sweating, excessive thirst, leg pain and chest, breathing difficulties, vomiting.

**Eye contact:** Dust or smoke can cause eye irritation.

**Acute Toxicity:**

Ingredient	Result	Genres	Dose	Endangering
Zinc oxid	LD - intratracheal administration	rat	>4979 ug/kg	—
	LD - orally	rat	>8437 mg/kg	—
	LD50 - peritoneal administration	rat	240 mg/kg	—

**Chronic toxicity:**

**Conclusion / Summary:** unclassified

**Carcinogenicity:**

**Conclusion / Summary:** unclassified

**Teratogenicity:**

**Conclusion / Summary:** unclassified

**Mutagenicity:**

**Conclusion / Summary:** unclassified

**Toxicity for digestive system:**

**Conclusion / Summary:** unclassified

## SECTION 12. Ecological information

### 12.1. Toxicity

**Zinc Titanium sheets and coils** no ecological hazard. Danger may occur as a result of the reaction.

Zinc oxide which may arise during remelting scrap is hazardous to the environment. Has a very toxic effect on water organisms, May cause long-term changes in the aquatic environment.

Acute aquatic toxicity (sweet water organisms)

For water, low pH: 0,413 mg Zn/L (lowest value for Ceriodaphnia dubia)

For water, neutral/high pH: 0,136 mg Zn/L (lowest value for Seleneastrum capricornutum)

Chronic toxicity in aquatic environment (sweet water organisms):

For water with pH 8,0: 19 µg Zn/L (*Pseudokirchneriella subcapitata*)

For water with pH 6,0: 82 µg Zn/L (*Daphnia magna*)

Toxicity of Zinc and Zinc oxide :

Ingredient	Test	Result	Genres	Endangering
Zinc, stabilizing powder	mortality	Acute Toxicity LC50 0,24 mg/l Sweet water	Fish - <i>Oncorhynchus mykiss</i>	96 hours
	mortality	Acute Toxicity LC50 0,45 ppm Sweet water	Fish - <i>Cyprinus carpio</i>	96 hours
	mortality	Acute Toxicity LC50 68 ug/l Sweet water	Daphnia - <i>Daphnia magna</i>	48 hours
Zinc oxide	mortality	Acute Toxicity EC50 0,14 mg/l	Daphnia - <i>Daphnia pulex</i>	48 hours
	mortality	Acute Toxicity EC50 0,11 mg/l	Daphnia - <i>Ceriodaphnia dubia</i>	48 hours
	mortality	Acute Toxicity IC50 0,17 mg/l	Alga - <i>Selenastrum capricornutum</i>	72 hours
	mortality	Acute Toxicity LC50 0,41 mg/l	Fish - <i>Pimephales promelas</i>	96 hours
	mortality	Acute Toxicity LC50 0,17 mg/l	Fish - <i>Oncorhynchus mykiss</i>	96 hours
	mortality	Acute Toxicity LC50 0,17 mg/l	Fish - <i>Thymallus articus</i>	96 hours
	mortality	Acute Toxicity LC50 9,71 mg/l	Fish - <i>Cyprinus carpio</i>	96 hours
	mortality	Acute Toxicity LC50 1,02 mg/l	Fish - <i>Oncorhynchus kisutch</i>	96 hours

**12.2. Persistence and degradability**

Not applicable for inorganic products.

**12.3. Bioaccumulative potential**

It is estimated that zinc is not bioaccumulate.

**12.4. Mobility in soil**

Insoluble in water, not mobile in soil.

**12.5. Results of PBT and vPvB assessment**

Not applicable for inorganic products.

**12.6. Other adverse effects**

No impact on global warming and ozone depletion

■ **SECTION 13. Disposal Considerations**

**13.1. Waste treatment methods**

At waste disposal follow all appropriate regulations:

- Ustawy z dnia 14 grudnia 2012r. o odpadach (Dz.U. z 2013r. poz.21 z późn. zm.).
- ustawy z dnia 13 czerwca 2013r. o gospodarce opakowaniami i odpadami opakowaniowymi (Dz.U. z 2013r. poz.888 z późn. zm.).

Waste Classification according to:

- Klasyfikacja odpadów zgodnie z rozporządzeniem Ministra Środowiska z dnia 9 grudnia 2014r. w sprawie katalogu odpadów (Dz.U. z 2014r. poz.1923).

All wastes can be recycled.

16 01 18	–	Non ferrous metals
17 04 04	–	Zinc
19 10 02	–	Non-ferrous waste
19 12 03	–	Non ferrous metals





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11 02 02\* – Sludges from zinc hydrometallurgy  
Contaminated packaging – Not applicable

EU directives:

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives

Council Directive 91/689/EEC of 12 December 1991 on hazardous waste.

Directive 94/62/EC of the European Parliament and of the council on packaging and packaging waste.

Waste treatment methods: Do not discharge into the environment. Waste and scrap can be recycled.

Packaging liquidation methods: Packaging remove as a waste, delivered to eligible companies.

■ **SECTION 14. Transport information**

General transport regulations are valid.

**14.1. UN number**

Not applicable

**14.2. UN proper shipping name**

Not applicable

**14.3. Transport hazard class(es)**

Not hazardous according to current Dangerous Substances Directive.

**14.4. Packing group**

Not applicable

**14.5. Environmental hazards**

Not applicable

**14.6. Special precautions for user**

Because quality - shipping in covered means of transport only

**14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable

■ **SECTION 15. Regulatory information**

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

- Rozporządzenie Ministra Gospodarki z dnia 29 stycznia 2013r. w sprawie ograniczeń produkcji, obrotu lub stosowania substancji i mieszanin niebezpiecznych lub stwarzających zagrożenie oraz wprowadzania do obrotu lub stosowania wyrobów zawierających takie substancje lub mieszaniny (Dz.U. z 2014r. poz.769).
- Rozporządzenie Ministra Gospodarki z dnia 21 grudnia 2005r. w sprawie zasadniczych wymagań dla środków ochrony indywidualnej (Dz.U. Nr 259, poz.2173).
- Ustawa z dnia 25 lutego 2011r. o substancjach chemicznych i ich mieszaninach (Dz.U. Nr 63, poz.322 z późn. zm.).
- Rozporządzenie Ministra Pracy i Polityki Socjalnej z dnia 6 czerwca 2014r. w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia w środowisku pracy (Dz.U. z 2014r. poz.817 z późn. zm.).
- Rozporządzenie Ministra Pracy i Polityki Socjalnej z dnia 26 września 1997r. w sprawie ogólnych przepisów bezpieczeństwa i higieny pracy (Dz.U. Nr 169/2003, poz.1650 z późn. zm.).

- Rozporządzenie Ministra Zdrowia z dnia 2 lutego 2011r. w sprawie badań i pomiarów czynników szkodliwych dla zdrowia w środowisku pracy (Dz.U. Nr 33, poz.166).
- Ustawa z dnia 14 grudnia 2012r. o odpadach (Dz.U. z 2013r. poz.21 z późn. zm.).
- Ustawa z dnia 13 czerwca 2013r. o gospodarce opakowaniami i odpadami opakowaniowymi (Dz.U. z 2013r. poz.888 z późn. zm.).
- Rozporządzenie Ministra Środowiska z dnia 9 grudnia 2014r. w sprawie katalogu odpadów (Dz.U. z 2014r. poz.1923).
- Transport drogowy i kolejowy ADR/RID zgodnie z Oświadczeniem Rządowym z dnia 23 marca 2011r. w sprawie wejścia w życie zmian do załączników A i B Umowy europejskiej dotyczącej międzynarodowego przewozu drogowego towarów niebezpiecznych (ADR), sporządzonej w Genewie dnia 30 września 1957r. (wersja ujednolicona Dz.U. Nr 110, poz.641) oraz Ustawą z dnia 28 marca 2003r. o transporcie kolejowym - tekst ujednolicony (Dz.U. Nr 86, poz.789 z późn. zm.).
- Regulation (EC)No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labeling and packing of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 as amended.
- Directive 2006/12/EC of the European Parliament and of the Council of 5 April 2006 on waste as amended and of the Council of 20 December 1994 on packing and packing waste as amended.
- Commission Directive 2000/39/EC of June 2000 establishing a first of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work (OJ L 42, 16.6.2000).
- Commission Directive 2006/15/EC of 7 February 2006 establishing a second list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC (OJ L 38, 9.2.2006).
- Commission Directive 2009/161/EU of 17 December 2009 establishing a third list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending (OJ L 38, 19.12.2009).
- Commission Regulation (EC) No 1238/2007 of 23 October 2007 on laying down rules on the qualifications of the members of the Board of Appeal of the European Chemicals Agency.
- Corrigendum to Directive 2006/121/EC of the European Parliament and of the Council of 18 December 2006 amending Council Directive 67/548/EEC on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labeling of dangerous substances in order to adapt it to Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) as amended.
- Regulation (EC) No 1907/2006 – REACH of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) and establishing a European Chemicals Agency.
- Council Directive 91/689/EEC of 12 December 1991 on hazardous waste.
- Directive 94/62/EC of the European Parliament and of the council on packaging and packaging waste.

### 15.2. Chemical Safety Assessment

Chemical Safety Assessment has not been carried out.

### SECTION 16. Other information

**Zinc Titanium sheets and coils** fulfill all requirements of standard **PN EN 988:1998**.

Primary Zinc fulfill all requirements of standard **EN 1179:1995** and polish version **PN-EN 1179:1998**.

#### Shortcuts:

- DNEL – Level of exposure above which humans should not be exposed.
- DSB – Concentration of the biomaterial.
- NDS – Maximum acceptable concentration.
- NDSch – Maximum acceptable temporary concentration.



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- NDSP – Maximum acceptable ceiling concentration.  
PNEC – Predicted concentration causing no changes in the environment. (Predicted No-Effect Concentration).

Updates:

Above safety data sheet was edited on the basis of current Polish regulations relating to chemical substances and mixtures

**The above safety data sheet replaces all previous issues.**

Necessary training:

Occupational health and safety (OHS) and fire protection.

Information for customers:

Information refers to the product in the form as delivered.

All data is presented based upon actual information gathered and experience. Data Sheet describes the product in terms of safety requirements. Indicated data does not assure terms of product properties and does not establish any legal relationship. ZM SILESIA SA takes no responsibility or liability for the use of the product.

Buyer is responsible for security before and during use, it also assumes all the risks concerning the use of this product.

Developed by:

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