

**SAFETY DATA SHEET**

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Issued: 28.08.2008

Product name: **ZAMAK 410 – Z5**

Date of revision:

Number of revision:

1. Product and company identification:

1.1.	Product name:	ZAMAK 410 – Z5	Ident. Nr.: P048704
			Department: Metalurgija
1.2.	Application:	Metallurgical products	
1.3.	Supplier data (manufacturer, importer, distributor):		
1.3.1.	Name:	CINKARNA CELJE, d.d.	
1.3.2.	Address and telephone number:	Kidričeva 26, 3001 CELJE – SLOVENIJA, +386 (0)3 3427 6000	
1.3.4.	Emergency telephone number:	+386 (0)3-3427 6184	

2. Composition / information on ingredients:

2.1	Common chemical name:						
2.2.	Hazardous components:	none					
Chemical name:	Index	CAS number.	EC number	Conc.(wt.%)	Hazard labelling	R - phrases	S - phrases

3. Hazards identification:

3.1	Hazard:	This product is not a hazardous substance.
3.2.	Specific hazards:	By contact with acids or alkaloids is coming to a chemical reaction, by which the hydrogen gas arises. By warming up over 650°C, ZnO gas exhales.
3.3.	Main symptoms:	Exposure to ZnO gas can cause coughing, weakness and headache. This trouble will disappear in 1 – 2 days.

4. First-aid measures:

4.1	General instructions:	Measures are necessary only by inhalation of zinc oxides or dust or by scald with melted zinc. The injured person must be taken to fresh air, get medical attention.
4.2.	Inhalation:	Provide fresh air. In case of special symptoms, seek medical assistance.

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4.3.	Skin contact:	By burning skin washing out the wound with fresh water, get medical attention.
4.4.	Eye / mucous membrane contact:	Flush eyes with large amounts of water. If irritation persists, get medical attention.
4.5.	Inhalation:	By weakness inhale fresh air. Get medical attention.
4.6.	First aid at worksite:	Provide fresh air. Rinse with water.

5. Fire-fighting measures:

5.1.	Extinguishing media:	By surrounding fire no limits. Fire as result of melted zinc must be extinguished with sand or special means of class D. Water and CO ₂ are not permitted.
5.2.	Specific hazards:	Explosion, widening of fire by extinguishing with water.
5.3.	Protection equipment:	Protective mask, helmet, fire safe clothes and gloves.

6. Accident outflow measures:

6.1.	Personal precautions:	Zamak is a solid substance, outflow is not possible.
6.2.	Environmental precautions:	/
6.3.	Methods for cleaning up:	/

7. Handling and storage:

7.1.	Handling:	Special attention to sharp edges and slippery ingots.
7.1.1.	Precautions:	Protective clothes and gloves.
7.1.2.	Technical measures:	Protection of packaging with binding bands.
7.1.3.	Safe handling advise:	Use shears for bands cutting.
7.2.	Storage:	In a dry and ventilated storage.
7.2.1.	Safety storage conditions:	Original packaging, in a dry and ventilated storage.
7.2.2.	Incompatible products to separate:	Acids and alkaloids.
7.2.3.	Packaging demands:	Transporting pallet.
7.2.4.	Protection against static electricity:	Transporting wood pallet.

8. Exposure controls / personal protection:

8.1.	Technical measures:	Generally technical safety measures for galvanisation.
8.2.	Control parameters:	/

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8.3.	Personal protection equipment:	Protective clothes, gloves, cap, shoes and glasses.
8.3.1.	Respiratory organ protection :	Ventilated room.
8.3.2.	Skin and body protection:	Protective work clothing.
8.3.3.	Hand protection:	Protective gloves.
8.3.4.	Eye protection:	Glasses.
8.3.5.	Hygiene measures:	The usual precautionary measures for handling by galvanisation.

9. Physical and chemical properties:

9.1.	Form:	Metallic plates, silver - blue colour.
9.2.	Odour:	without
9.3.	pH - Value:	/
9.4.	Melting point / range:	419°C
9.5.	Boiling point / range:	906°C
9.6.	Flash point:	/
9.7.	Inflammability:	Near the boiling point.
9.8.	Autoignition temperature:	Near the boiling point
9.9.	Explosion properties:	Possible by contact of melted zinc and water.
9.10.	Oxidising properties:	Possible in the presence of damp.
9.11.	Vapour pressure:	1.33 kPa by 487°C
9.12.	Density:	7200 kg/m ³
9.13.	Solubility :	Insoluble
9.14.	Partition coefficient:	/
9.15.	Other information:	/
9.16.	Note:	/

10. stability and reactivity:

10.1.	Stability and reactivity:	Stable under recommended storage conditions, reactive in contact with acids and alkaloids.
10.1.1.	Conditions to avoid:	Storage in a damped room.
10.1.2.	Materials to avoid:	Sourness, alkaloids, damp, cooper and iron.

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10.2.	Hazardous decomposition products:	Zinc oxides by melting.
10.3.	Other information:	/

11. Toxicological information:

11.1.	Acute toxicity:	none
11.2.	Chronic toxicity; long term toxicity:	none
11.3.	Sensitisation:	none
11.4.	Specific effects:	none

12. Ecological information:

12.1.	Mobility:	/
12.2.	Degradability:	In contact with water, zamak can disintegrate to zinc hydroxide.
12.3.	Bioaccumulation:	Not expected to accumulate in biological organisms.
12.4.	Ecotoxicity	none
12.5.	Other negative effects on the environment:	none

13. Disposal considerations:

13.1.	Product:	Zamak can be remade in totality by the normal production process.
13.2.	Contaminated packaging:	Packaging is not contaminated.

14. Transport information:

14.1.	Land (RID,ADR, CFR):	Not classified
14.2.	UN number:	/
14.3.	Product / goods designation:	/
14.4.	Product / goods class:	/
14.5.	Classification cods:	/
14.6.	Substance packaging group:	/
14.7.	Hazard label:	/

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15. Regulatory information:

15.1.	EC classification, letter-symbol, hazard inscriptions, S and R (including text), special, regulations:	
15.1.1.	Classification:	Classification not required.
15.1.2.	Indication:	/
15.1.3.	Warnings:	/
15.1.4.	Notices:	/
15.1.5.	Special provisions:	/
15.2.	Possible existence of local regulations:	Official gazette of Republic Slovenia, No. 73, 9. 9. 1999

16. Other information:

16.1.	Workers qualifying :	Safety at Work Certificate.
16.2.	Recommended use and possible restrictions:	Metallurgical products.
16.3.	Instructions:	Technical instructions by producer.
16.4.	Sources :	Official gazette of Republic Slovenia, Nr. 73/1999, 101/02, EN 1179

The information is based on our knowledge of the product at the time of compilation of this safety data sheet. If the product is used in a way that is not compliant with the recommended use, the user / buyer shall solely be held responsible for any resulting damage. Furthermore, the information in this safety data sheet does not relieve the user of any obligation to comply with all legislation relevant for the field of the users' activity.