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SAFETY DATA SHEET

Issued on: 28.08.2008

Trade name: **ZINC CUBES - ANODES**

Revised on: 08.10.2018

Revised version No.: 1

1. Identification of the substance/mixture and of the company/undertaking

1.1.	**Product identifier (Product registration number):**	**ZINC CUBES - ANODES**	**Identification no.:** P3010704
1.2.	**Relevant identified uses of the substance/ mixture and uses advised against:**	Zinc coating by galvanizing	
1.3.	**Details of the supplier of the safety data sheet (manufacturer, importer, only representative, downstream user, distributor):**		
1.3.1.	Supplier name:	CINKARNA CELJE, d.d.	PE METALURGIJA
1.3.2.	Supplier address and telephone:	Kidričeva 26, 3001 Celje - Slovenija, +386 3 427 6000	
1.3.3.	E-mail (competent person) :	metalurgija.tajnistvo@cinkarna.si	
1.4.	Emergency phone number :	In the case of health hazard, consult a private or a doctor on duty in the event of life-threatening, call the telephone number 112. Additional information is available: on weekdays from 7-15 pm on telephone number +386 (0) 3 427 6310	

2. Hazards identification

2.1.	**Classification of substance or mixture:**	Alloy does not fall as dangerous.
Reference to Chapter 16		
2.2.	**Label elements:**	There is no need to mark the product in accordance with the EC directive.
2.3.	**Other hazards:**	Not known.

3. Composition / information on ingredients

3.1.	**Mixture**

Chemical name	CAS n. EC n. Index	Registration n. REACH	Conc. (wt/vol/ max. conc. %)	(Regulation (EC) No 1272/2008 (CLP)	
				Hazard statements (H)	Hazard class and hazard category

Reference to Chapter 16

4. First aid measures

4.1.	**Description of first aid measures**	If there is an inhalation of zinc oxides or dust, or burns due to contact with melt.
	After inhalation:	Take affected persons into fresh air and seek medical assistance.
	After skin contact:	Burns on the skin, wash for a long time with running water, and in case of major burns, call for medical attention.
	After eye contact:	Flush with plenty of water, seek medical attention.
	After Ingestion:	In case of nausea, inhale fresh air, seek medical attention if necessary.

4.2.	Most important symptoms and effects, acute and delayed:	Nausea, burns.
4.3	Indication of any immediate medical attention and special treatment needed:	Not required.

5. Fire-fighting measures

5.1.	**Extinguishing media**	
	Appropriate extinguishing media:	Extinguishing agents of group D, sand
	Inappropriate extinguishing media:	Water, CO2
5.2.	**Specific hazards arising from the substance or mixture:**	
	Hazardous combustion products:	Zinc oxide.
5.3.	**Advice for firefighters:**	In case of fire, use: Protective eye and respiratory mask, protective helmet, fireproof clothing, fireproof shoes, fireproof gloves.

6. Accidental release measures

6.1.	**Personal precautions protective equipment and emergency procedures**	
6.1.1.	For non-emergency persons:	Not required.
6.1.2.	For emergency persons:	Not required.
6.2.	**Environmental precautions**	Not required.
6.3.	**Methods and material for containment and cleaning**	
6.3.1	Appropriate spillage retaining techniques (fencing, covering drains, retaining procedures):	Not required.
6.3.2.	Appropriate cleaning procedures	
	Neutralization techniques:	Not required.
	Decontamination techniques:	Not required.
	Absorbent materials:	Not required.
	Cleaning techniques:	Not required.
	Sucking techniques:	Not required.
	Required equipment for retaining / cleaning:	Not required.
6.3.3.	Inappropriate retaining or cleaning techniques:	Not required.
6.4.	**Reference to other sections:**	Not required.

7. Handling and storage

7.1.	**Precautions for safe handling**	
7.1.1.	Recommendations shall be specified to:	At work, pay special attention to the sharp edges of individual cubes in an open package.

	Safe handling of substance or mixture:	Use protective gloves and clothing.
	Prevent handling of incompatible substances or mixtures:	Not required.
	Reduce the release of the substance or mixture to the environment:	Not required.
7.1.2.	General working hygiene (prohibited eating, drinking and smoking within working area; washing hands, etc.):	It is forbidden to eat food and drink, and smoking at work. Wash hands after work.
7.2.	**Conditions for safe storage, including any incompatibilities**	
	Management of risks associated with:	
	- explosive atmospheres	Not required.
	- corrosive substances:	Do not store with corrosive substances.
	- incompatible substances or mixtures:	Not required.
	- evaporation substances:	Not required.
	- potential ignition sources:	Not required.
	How to control the effects of:	
	- weather conditions:	Store in dry and ventilated areas.
	- ambient pressure:	Not required.
	- temperature:	Not required.
	- sunlight:	Not required.
	- humidity:	Store in dry and ventilated areas.
	- vibrations:	Not required.
	Securing integrity of substance or mixture by use of:	
	- stabilisers:	Not required.
	- antioxidants:	Not required.
	Other advice including:	
	- prevention specifications:	Store in dry and ventilated areas.
	- specific designs for storage rooms or vessels (including retention walls and ventilation):	Not required.
	- quantity limitations regarding storage conditions:	Not required.
	- packaging compatibility:	Not required.
7.3.	**Specific end use(s):**	Not required.

8. Exposure control / personal protection

8.1.	**Control parameters**	

8.1.1.	Limit values (LV):	No data.
Reference to Chapter 16		
	DNEL	No data.
	PNEC	No data.
8.2.	**Exposure control**	
8.2.1.	Appropriate technical and engineering controls:	General technical precautions for the use of zinc anodes in production.
8.2.2.	Personal protective equipment:	Personal protective equipment..
	- respiratory protection:	Ventilation of the room in which the process of galvanic protection takes place.
	- skin protection:	Protective suit SIST EN ISO 13688: 2013, protective shoes SIST EN ISO 20345: 2012
	- hand protection:	Protective gloves non-cut SIST EN 388: 2016, protection level 4 or 5.
	- eye/ face protection:	Protective goggles or shield EN 166: 2002
	- heat radiation protection:	Protective gloves non-cut SIST EN 388: 2016, protection level 4 or 5.
	Other:	Not required.
8.2.3.	Environment exposure control	Not required.

9. Physical and chemical properties

9.1.	**Information on basic physical and chemical properties**	
	- appearance:	Metal cubes, silver color.
	- colour:	Silver.
	- odour:	Odorless.
	- pH:	Not required.
	- melting/ freezing point:	419°C
	- boiling point and boiling range:	906 °C
	- flash point:	Not required.
	- vaporization rate:	Not required.
	- flammability (solid, gas):	Not required.
	- upper /lower flammability or explosive limit:	Not required.
	- vapour pressure:	1,33hPa at 487°C
	- vapour density:	Not required.
	- relative density:	7,2g/cm3
	- solubility:	Insoluble.
	- partition coefficient: n-octanol/water	Not required.
	- spontaneous combustion temperature:	No auto-ignition occurs.

	- decomposition temperature:	Not required.
	- viscosity:	Not required.
	- explosion properties:	Not required.
	- oxidation properties:	Not required.
9.2.	**Other information**	Not required.

10. Stability and reactivity

10.1.	**Reactivity:**	It is stable, the dangerous reaction can come in contact with acid or alkalis.
10.2.	**Chemical stability:**	Existing under normal conditions. It creates "white corrosion" in moist air.
10.3.	**Possible hazardous reactions:**	Zinc powder, in contact with oxygen and water liberates hydrogen gas.
10.4.	**Conditions to avoid:**	Not known.
10.5.	**Incompatible materials:**	Oxidizing agents such as, for example, ammonium nitrate, nitric acid, sodium chlorate, acids and water.
10.6.	**Hazardous decomposition products:**	Zinc powder, in contact with oxygen and water liberates hydrogen gas. Vodikov plin se prav tako sprošča pri stiku s kislinami.

11. Toxicological data

11.1	**Information on toxicological effects**	Not toxic.
Reference to Chapter 16		
	- acute toxicity:	Not toxic.
	- skin corrosion /irritation:	Not corrosive.
	- serious eye damage/ irritation:	Not known.
	- respiratory or skin sensitisation:	Not known.
	- germ cell mutagenicity:	Not known.
	- Carcinogenicity:	Not known.
	- toxicity for reproduction:	Not known.
	- STOT ? single exposure:	Not known.
	- STOT ? repeated exposure:	Not known.
	- Inhalation hazards:	Not known.

12. Ecological information

12.1.	**Toxicity:**	Not toxic.
12.2.	**Persistence and degradability:**	No data.
12.3.	**Accumulation in organisms:**	No data.
12.4.	**Mobility in soil:**	For zinc (as for other metals) transport and distribution across different environmental compartments, such as, for example, water (molten particles, particulate matter associated with floating substances), earth (particles bound to earth particles, particles in the water in the soil, ...) described and measured by coefficients of metal partitions between these different particles. In the CSR, the water partition coefficient in zinc was used in land of 158.5 l / kg (recorded value 2.2) (CSR for zinc 2010).

12.5.	**PBT and vPvB assessment results:**	Not in accordance with the requirements for PBTs and vPvBs.
12.6.	**Other adversative effects:**	No data.
Reference to Chapter 16		

13. Disposal considerations

13.1.	**Waste treatment methods:**	Zinc is fully recyclable by melting in the production process.

14. Transport information

	ADR, RID, ADN, IMDG, ICAO-TI/IATA-DGR	Not required.
14.1.	**UN number:**	
14.2.	**UN proper shipping name (technical name if required):**	Product is not under ADR regulations.
14.3.	**Transport hazard class:**	Not necessary
14.4.	**Packaging group:**	Not necessary
14.5.	**Hazard to environment:**	Not dangerous for the environment.
14.6.	**Special precautions for user:**	Not required.
14.7.	**Bulk transport by MARPOL 73/78 Annex II and IBC Code:**	Not required.
14.8.	**Tunnel code:**	Not necessary
14.9.	**Classification code:**	Not required.
14.10.	**Hazard label:**	Not required.

15. Regulatory information

15.1.	**Rules and regulations regarding health, safety and environmental hazard specific to the substance or mixture:**	For the substance: Directive 2006/11 / EC 2000/479 / EC EC 166/2006 86/278 / EEC REACH Regulation; Chemicals act; Rules on classification, packaging and labeling of dangerous substances; Health and safety at work act; Rules on personal protective equipment; Rules on the protection of workers from the risks related to exposure to chemical agents at work; Rules on the requirements for ensuring the safety and health of workers at workplaces; List of harmonized standards whose application creates a presumption of compliance of the product with the requirements
15.2.	**Chemical safety assessment:**	Not required.

16. Other information

	Amendments made in the revised edition:	According to the CPL regulation.
	List of relevant R phrases, hazard statements (H) and precautionary statements (P) which have not been written out in full in sections 2 to 15:	Not required.
	Training of personnel:	Required proper education regarding the use of the product, examination for occupational safety and health.
	Sources:	Material safety data sheets, REACH regulations and CLP regulations.

	A key or legend to abbreviation and acronyms used in the safety data sheet:	ADR	European Agreement concerning the International
		CLP	Regulation (EC) No 1272/2008 on classification, packaging and labelling of substances and mixtures
		DNEL	Derived No Effect Level
		LV	Limit
		PBT	Persistent, Bioaccumulative, Toxic
		PNEC	Predicted No Effect Concentration
		REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
		STOT	Specific target organ toxicity
		VPvB	Very Persistent, Very Bioaccumulative

Data specified above are based on research and experience of the supplier at the time of compiling the present MSDS. The supplier may not assume responsibility in case the buyer/user should fail to use the product in accordance with the relevant suggestions and recommendations. No information contained in the present MSDS may release the buyer/user from liability to strictly follow any legal requirements regarding his business activities.