1. SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product Description : ***Gme-17000 Zinc Powder***
Cat No. : Z/0450/53, Z/0450/60, Z/0450/61
CAS-No : 7440-66-6
EC-No. : 231-175-3
Molecular Formula : Zn
Reach Registration Number : 01-2119467174-37

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

Recommended Use : Laboratory chemicals.
Sector of use : SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites
Product category : PC21 - Laboratory chemicals
Process categories : PROC15 - Use as a laboratory reagent
Environmental release category : ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)
Uses advised against : No Information available

1.3. Details of the supplier of the safety data sheet

Manufacturer : GÜVEN METAL SANAYİ VE TİCARET LİMİTED ŞİRKETİ
Address : Sanayi mah. 60001 nolu cadde No:47 Şehitkamil – Gaziantep / **TÜRKİYE**
Web : www.guvenmetal.com.tr
E-mail address : info@guvenmetal.com.tr

1.4. Emergency telephone number : +90 342 2350225

2. SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP Classification - Regulation (EC) No 1272/2008

Physical hazards

Substances/mixtures which, in contact with water, emit flammable gases	Category 1 (H260)
Pyrophoric solids	Category 1 (H250)

Health hazards
Based on available data, the classification criteria are not met

2.2. Label elements

Signal Word **Danger**

Hazard Statements
H250 - Catches fire spontaneously if exposed to air
H260 - In contact with water releases flammable gases which may ignite spontaneously
H410 - Very toxic to aquatic life with long lasting effects

Precautionary Statements
P222 - Do not allow contact with air
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P370 + P378 - In case of fire: Use sand for extinction
P231 + P232 - Handle and store contents under inert gas. Protect from moisture.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P302 + P335 + P334 - IF ON SKIN:Brush off loose particles from skin. Immerse in cool water
P273 - Avoid release to the environment

2.3. Other hazards

Water reactive
In accordance with Annex XIII of the REACH Regulation, inorganic substances do not require assessment

3. SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Component	CAS-No	EC-No.	Weight %	CLP Classification - Regulation (EC) No 1272/2008
Zinc powder - zinc dust (pyrophoric)	7440-66-6	EEC No. 231-175-3	>95	Pyr. Sol. 1 (H250) Water-react. 1 (H260) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)

Component	Specific concentration limits (SCL's)	EC-No. M-Factor	Component notes
Zinc powder - zinc dust (pyrophoric)	7440-66-6	1	-

Reach Registration Number	01-2119467174-37

4. SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Eye Contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.Get medical attention.

Skin Contact : Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if

symptoms occur.

Ingestion : Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention.

Inhalation : Remove to fresh air. If breathing is difficult, give oxygen. Get medical attention if symptoms occur.

Self-Protection of the First Aider : Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

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

No information available.

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

Notes to Physician Treat symptomatically.

5. SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media
Dry sand, clay, approved class D extinguishers.

Extinguishing media which must not be used for safety reasons
Water

5.2. Special hazards arising from the substance or mixture

Flammable. Fine dust dispersed in air may ignite. Pyrophoric: Spontaneously flammable in air. Water reactive. Contact with water liberates extremely flammable gases. Do not allow run-off from fire-fighting to enter drains or water courses.

Hazardous Combustion Products
Heavy metal oxides, Hydrogen.

5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment as requiredRemove all sources of ignition. Avoid dust formation. Take precautionary measures against static discharges. Do not get in eyes, on skin, or on clothing.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. Should not be released into the environment.

6.3. Methods and material for containment and cleaning up

Remove all sources of ignition. Do not expose spill to water. Sweep up and shovel into suitable containers for disposal. Use spark-proof tools and explosion-proof equipment. Avoid dust formation.

6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

7. SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Use only under a chemical fume hood. Handle under an inert atmosphere. Do not allow contact with air. Do not allow contact with water. Wear personal protective equipment/face protection. Avoid dust formation. Avoid contact with skin, eyes or clothing. Avoid ingestion and inhalation. Keep away from open flames, hot surfaces and sources of ignition. Use spark-proof tools and explosion-proof equipment. Take precautionary measures against static discharges

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

7.2. Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Store under an inert atmosphere. Keep away from heat, sparks and flame. Keep away from water or moist air.

Technical Rules for Hazardous Substances (TRGS) 510 Storage Class (LGK)(Germany) Class 4.2

7.3. Specific end use(s)

Use in laboratories

8. SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits
List source(s):

Biological limit values
This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Monitoring methods
BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.
MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust
MDHS 91 Metals and metalloids in workplace air by X-ray fluorescence spectrometry
MDHS 99 Metals in air by ICP-AES

Derived No Effect Level (DNEL) No information available

Route of exposure	Acute effects (local)	Acute effects (systemic)	Chronic effects (local)	Chronic effects (systemic)
Oral Dermal Inhalation				

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering Measures

Ensure adequate ventilation, especially in confined areas.
Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment Eye Protection Goggles (European standard - EN 166)

Hand Protection Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Natural rubber Nitrile rubber Neoprene PVC	See manufacturers recommendations	-	EN 374	(minimum requirement)

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure

Inspect gloves before use.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.(Refer to manufacturer/supplier for information)
Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g.sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.
Remove gloves with care avoiding skin contamination.

Respiratory Protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.To protect the wearer, respiratory protective equipment must be the correct fit and

be used and maintained properly.

Large scale/emergency use Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced
Recommended Filter type: Particulates filter conforming to EN 143

Small scale/Laboratory use Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.Recommended half mask:- Particle filtering: EN149:2001 When RPE is used a face piece Fit Test should be conducted

Environmental exposure controls Prevent product from entering drains. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

9. SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State	Powder Solid	
Appearance	Grey	
Odor	Odorless	
Odor Threshold	No data available	
Melting Point/Range	420 °C / 788 °F	
Softening Point	No data available	
Boiling Point/Range	907 °C / 1664.6 °F	
Flammability (liquid)	Not applicable	Solid
Flammability (solid,gas)	No information available	
Explosion Limits	No data available	
Flash Point	No information available	**Method -** No information available
Autoignition Temperature	460 °C / 860 °F	
Decomposition Temperature	No data available	
pH	No information available	
Viscosity	Not applicable	Solid
Water Solubility	Reacts with water	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/water)		
Vapor Pressure	1.3 mbar @ 478 °C	
Density / Specific Gravity	7.14	
Bulk Density	No data available	
Vapor Density	Not applicable	
Particle characteristics	No data available	

9.2. Other information

Molecular Formula	Zn
Molecular Weight	65.36
Substances/mixtures which, in contact with water, emit flammable gases	Emitted gas ignites spontaneously Gas(es) = Hydrogen
Evaporation Rate	Not applicable – Solid

10. SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity Yes

10.2. Chemical stability Water reactive, Moisture sensitive, Air sensitive, Pyrophoric: Spontaneously flammable in air.

10.3. Possibility of hazardous reactions

Hazardous Polymerization Hazardous polymerization does not occur.
Hazardous Reactions Contact with water liberates extremely flammable gases. Pyrophoric: Spontaneously flammable in air.

10.4. Conditions to avoid Avoid dust formation. Incompatible products. Exposure to air. Exposure to moist air or water. Keep away from open flames, hot surfaces and sources of ignition.

10.5. Incompatible materials Strong oxidizing agents. Strong acids. Strong bases. Amines.

10.6. Hazardous decomposition products Heavy metal oxides. Hydrogen.

11. SECTION 11: TOXICOLOGICAL INFORMATION

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

Product Information No acute toxicity information is available for this product

11.1.1. acute toxicity;
Oral Based on available data, the classification criteria are not met
Dermal Based on available data, the classification criteria are not met
Inhalation Based on available data, the classification criteria are not met

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Zinc powder - zinc dust (pyrophoric)	LD50 = 630 mg/kg (Rat)	-	-

11.1.2. skin corrosion/irritation; Based on available data, the classification criteria are not met

11.1.3. serious eye damage/irritation; Based on available data, the classification criteria are not met

11.1.4. respiratory or skin sensitization;
Respiratory Based on available data, the classification criteria are not met
Skin Based on available data, the classification criteria are not met

11.1.5. germ cell mutagenicity; Based on available data, the classification criteria are not met

11.1.6. carcinogenicity; Based on available data, the classification criteria are not met
There are no known carcinogenic chemicals in this product

11.1.7. reproductive toxicity; Based on available data, the classification criteria are not met

11.1.8. STOT-single exposure; Based on available data, the classification criteria are not met

11.1.9. STOT-repeated exposure; Based on available data, the classification criteria are not met
Target Organs None known.

11.1.10. aspiration hazard; Not applicable Solid

Other Adverse Effects See actual entry in RTECS for complete information

Symptoms / effects,both acute and delayed No information available.

11.2. Information on other hazards

Endocrine Disrupting Properties Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.

12. SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity effects Reacts with water so no ecotoxicity data for the substance is available.

Component	Freshwater Fish	Water Flea	Freshwater Algae
Zinc powder - zinc dust (pyrophoric)	LC50: = 0.41 mg/L, 96h static (Oncorhynchus mykiss) LC50: = 0.59 mg/L, 96h semi-static (Oncorhynchus mykiss) LC50: 2.16 - 3.05 mg/L, 96h flow-through (Pimephales promelas) LC50: 0.211 - 0.269 mg/L, 96h semi-static (Pimephales promelas) LC50: = 2.66 mg/L, 96h static (Pimephales promelas) LC50: = 30 mg/L, 96h (Cyprinus carpio) LC50: = 0.45 mg/L, 96h semi-static (Cyprinus carpio) LC50: = 7.8 mg/L, 96h static (Cyprinus carpio) LC50: = 0.24 mg/L, 96h	EC50: 0.139 - 0.908 mg/L, 48h Static (Daphnia magna)	EC50: 0.09 - 0.125 mg/L, 72h static (Pseudokirchneriella subcapitata) EC50: 0.11 - 0.271 mg/L, 96h static (Pseudokirchneriella subcapitata)

flow-through (Oncorhynchus mykiss)
LC50: = 3.5 mg/L, 96h static (Lepomis macrochirus)

Component	Microtox	M-Factor
Zinc powder - zinc dust (pyrophoric)		**1**

12.2. Persistence and degradability Product contains heavy metals. Discharge into the environment must be avoided. Special pre-treatment is necessary

Persistence May persist, based on information available.
Degradability Not relevant for inorganic substances, Reacts with water.
Degradation in sewage Contains substances known to be hazardous to the environment or not degradable in waste
treatment plant Water treatment plants. Water reactive.

12.3. Bioaccumulative potential Product has a high potential to bioconcentrate

12.4. Mobility in soil Spillage unlikely to penetrate soil. Is not likely mobile in the environment.

12.5. Results of PBT and vPvB assessment Water reactive. In accordance with Annex XIII of the REACH Regulation, inorganic substances do not require assessment.

12.6. Endocrine disrupting properties
Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

12.7. Other adverse effects

Persistent Organic Pollutant This product does not contain any known or suspected substance
Ozone Depletion Potential This product does not contain any known or suspected substance

13. SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from Residues/Unused Products Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

Contaminated Packaging Dispose of this container to hazardous or special waste collection point. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep product and empty container away from heat and sources of ignition.

European Waste Catalogue (EWC) According to the European Waste Catalog, Waste Codes are not product specific, but application specific.

Other Information Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Can be landfilled or incinerated, when in compliance with local regulations. Do not let this chemical enter the environment. Do not empty into drains.

14. SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

14.1. UN number	UN1436
14.2. UN proper shipping name	ZINC POWDER
14.3. Transport hazard class(es)	4.3
Subsidiary Hazard Class	4.2
14.4. Packing group	II

ADR

14.4.1. UN number	UN1436
14.4.2. UN proper shipping name	ZINC POWDER
14.4.3. Transport hazard class(es)	4.3
Subsidiary Hazard Class	4.2
14.4.4. Packing group	II

IATA

14.4.4.1. UN number	UN1436
14.4.4.2. UN proper shipping name	ZINC POWDER
14.4.4.3. Transport hazard class(es)	4.3
Subsidiary Hazard Class	4.2
14.4.4.4. Packing group	II

14.5. Environmental hazards according to the criteria set by IMDG/IMO	Dangerous for the environment. Product is a marine pollutant
14.6. Special precautions for user	No special precautions required
14.7. Maritime transport in bulk according to IMO instruments	Not applicable, packaged goods

15. SECTION 15: REGULATORY INFORMATION

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

International Inventories

X = listed, Europe (EINECS/ELINCS/NLP), U.S.A. (TSCA), Canada (DSL/NDSL), Philippines (PICCS), China (IECSC), Japan (ENCS), Australia (AICS), Korea (ECL).

Component	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	IECSC	AICS	KECL
Zinc powder - zinc dust (pyrophoric)	231-175-3	-		X	X	-	X	X	X	X	KE-35518

Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals
Not applicable

National Regulations

WGK Classification See table for values

Component	Germany - Water Classification (VwVwS)	Germany - TA-Luft Class
Zinc powder - zinc dust (pyrophoric)	WGK 2	-

Component	France - INRS (Tables of occupational diseases)
Zinc powder - zinc dust (pyrophoric)	Tableaux des maladies professionnelles (TMP) - RG 61

UK - Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

16. *SECTION 16: OTHER INFORMATION*

Full text of H-Statements referred to under sections 2 and 3
H250 - Catches fire spontaneously if exposed to air
H260 - In contact with water releases flammable gases which may ignite spontaneously
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects

CAS - Chemical Abstracts Service
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
IECSC - Chinese Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
ENCS - Japanese Existing and New Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit
ACGIH - American Conference of Governmental Industrial Hygienists
DNEL - Derived No Effect Level
RPE - Respiratory Protective Equipment

TWA - Time Weighted Average
IARC - International Agency for Research on Cancer
Predicted No Effect Concentration (PNEC)
LD50 - Lethal Dose 50%

LC50 - Lethal Concentration 50%
NOEC - No Observed Effect Concentration
PBT - Persistent, Bioaccumulative, Toxic

EC50 - Effective Concentration 50%
POW - Partition coefficient Octanol:Water
vPvB - very Persistent, very Bioaccumulative

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road
IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code
OECD - Organisation for Economic Co-operation and Development
BCF - Bioconcentration factor

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

MARPOL - International Convention for the Prevention of Pollution from Ships

ATE - Acute Toxicity Estimate
VOC (volatile organic compound)

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.
Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit
and standards.
First aid for chemical exposure, including the use of eye wash and safety showers.
This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006
COMMISSION REGULATION (EU) 2020/878 amending Annex II to Regulation (EC) No 1907/2006

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage,transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text