

SAFETY DATA SHEET

Creation Date 18-Apr-2011

Revision Date 28-Mar-2024

Revision Number 3

1. Identification

Product Name Misch metal

Cat No. : 45589

CAS No 62379-61-7
Synonyms Misch metal cerium

Recommended Use Laboratory chemicals.
Uses advised against Food, drug, pesticide or biocidal product use.

Details of the supplier of the safety data sheet**Company**

Thermo Fisher Scientific Chemicals, Inc.
30 Bond Street
Ward Hill, MA 01835-8099
Tel: 800-343-0660
Fax: 800-322-4757

Emergency Telephone Number

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11
Emergency Number US:001-201-796-7100 / **Europe:** +32 14 57 52 99
CHEMTREC Tel. No. **US:**001-800-424-9300 / **Europe:**001-703-527-3887

2. Hazard(s) identification**Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable solids	Category 2
Substances/mixtures which, in contact with water, emit flammable gases	Category 3
Combustible dust	Yes

Label Elements**Signal Word**

Warning

Hazard Statements

Flammable solid
May form combustible dust concentrations in air
In contact with water releases flammable gas

**Precautionary Statements****Prevention**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Ground/bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting equipment
Wear protective gloves/protective clothing/eye protection/face protection
Handle under inert gas. Protect from moisture

Storage

Store in a dry place. Store in a closed container
Store in a well-ventilated place. Keep container tightly closed

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

None identified

3. Composition/Information on Ingredients

Component	CAS No	Weight %
Misch metal, cerium	62379-61-7	>95
Cerium	7440-45-1	47-60
Lanthanum	7439-91-0	20-38
Neodymium	7440-00-8	1-20
Praseodymium	7440-10-0	5-10

4. 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 soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention.
Inhalation	Remove from exposure, lie down. Remove to fresh air.
Ingestion	Clean mouth with water. Get medical attention.
Most important symptoms and effects	No information available.
Notes to Physician	Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media	Dry chemical. approved class D extinguishers. clay. dry ground dolomite. sodium carbonate.
Unsuitable Extinguishing Media	No information available

Flash Point	No information available
Method -	No information available
Autoignition Temperature	No information available
Explosion Limits	
Upper	No data available
Lower	No data available
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available

Specific Hazards Arising from the Chemical

Combustible material. Fine dust dispersed in air may ignite.

Hazardous Combustion Products

Silicon dioxide. Hydrogen.

Protective Equipment and Precautions for Firefighters

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

NFPA

Health
0

Flammability
2

Instability
0

Physical hazards
W

6. Accidental release measures

Personal Precautions	Ensure adequate ventilation. Use personal protective equipment as required.
Environmental Precautions	See Section 12 for additional Ecological Information.

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

Handling	Avoid contact with skin and eyes. Do not breathe dust. Use spark-proof tools and explosion-proof equipment. Use only non-sparking tools. Minimize dust generation and accumulation. Do not allow contact with water.
Storage.	Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep away from heat, sparks and flame. Protect from moisture. Flammables area. Incompatible Materials. Acids. Water. Strong oxidizing agents.

8. Exposure controls / personal protection

Exposure Guidelines	This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
Engineering Measures	Use explosion-proof electrical/ventilating/lighting equipment.
Personal Protective Equipment	
Eye/face Protection	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin and body protection	Wear appropriate protective gloves and clothing to prevent skin exposure.
Respiratory Protection	Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard

EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Recommended Filter type: Particulates filter conforming to EN 143.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State	Solid
Appearance	Grey
Odor	Odorless
Odor Threshold	No information available
pH	No information available
Melting Point/Range	800 °C / 1472 °F
Boiling Point/Range	3500 °C / 6332 °F
Flash Point	No information available
Evaporation Rate	Not applicable
Flammability (solid,gas)	No information available
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	No information available
Vapor Density	Not applicable
Specific Gravity	No information available
Solubility	No information available
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	No information available
Decomposition Temperature	No information available
Viscosity	Not applicable
Molecular Formula	Ce

10. Stability and reactivity

Reactive Hazard	Yes
Stability	Reacts violently with water, liberating extremely flammable gases.
Conditions to Avoid	Avoid dust formation. Heat, flames and sparks. Keep away from open flames, hot surfaces and sources of ignition. Incompatible products. Exposure to moist air or water.
Incompatible Materials	Acids, Water, Strong oxidizing agents
Hazardous Decomposition Products	Silicon dioxide, Hydrogen
Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	Water reactive.

11. Toxicological information

Acute Toxicity

Product Information No acute toxicity information is available for this product

Component Information

Toxicologically Synergistic No information available

Products

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation No information available

Sensitization No information available

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
Misch metal, cerium	62379-61-7	Not listed	Not listed	Not listed	Not listed	Not listed
Cerium	7440-45-1	Not listed	Not listed	Not listed	Not listed	Not listed
Lanthanum	7439-91-0	Not listed	Not listed	Not listed	Not listed	Not listed
Neodymium	7440-00-8	Not listed	Not listed	Not listed	Not listed	Not listed
Praseodymium	7440-10-0	Not listed	Not listed	Not listed	Not listed	Not listed

Mutagenic Effects No information available

Reproductive Effects No information available.

Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure None known

STOT - repeated exposure None known

Aspiration hazard No information available

Symptoms / effects, both acute and delayed No information available

Endocrine Disruptor Information No information available

Other Adverse Effects The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity

Do not empty into drains.

Persistence and Degradability Soluble in water Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation No information available.

Mobility Will likely be mobile in the environment due to its water solubility.

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

UN-No UN1323
Hazard Class 4.1
Packing Group II

TDG

UN-No UN1323
Hazard Class 4.1
Packing Group II

IATA

UN-No UN1323
Proper Shipping Name FERROCERIUM
Hazard Class 4.1
Packing Group II

IMDG/IMO

UN-No	UN1323
Proper Shipping Name	FERROCERIUM
Hazard Class	4.1
Packing Group	II

15. Regulatory information**United States of America Inventory**

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	TSCA - EPA Regulatory Flags
Misch metal, cerium	62379-61-7	X	ACTIVE	-
Cerium	7440-45-1	X	ACTIVE	-
Lanthanum	7439-91-0	X	ACTIVE	-
Neodymium	7440-00-8	X	ACTIVE	-
Praseodymium	7440-10-0	X	ACTIVE	-

Legend:**TSCA** US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

- - Not Listed

TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT)

Not applicable

TSCA 12(b) - Notices of Export

Not applicable

International Inventories

Canada (DSL/NDL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Misch metal, cerium	62379-61-7	-	X	-	-	-	-	-	-	-
Cerium	7440-45-1	X	-	231-154-9	X	X	-	X	X	KE-05379
Lanthanum	7439-91-0	X	-	231-099-0	X	X	-	X	X	KE-21820
Neodymium	7440-00-8	X	-	231-109-3	-	X	-	X	X	KE-25784
Praseodymium	7440-10-0	X	-	231-120-3	-	X	-	X	X	-

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)**U.S. Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

Not applicable

Clean Air Act

Not applicable

OSHA - Occupational Safety and Health Administration

Not applicable

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

California Proposition 65 This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations Not applicable

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Cerium	-	X	-	-	-

U.S. Department of Transportation

Reportable Quantity (RQ): N
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland Security This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

Authorisation/Restrictions according to EU REACH

Component	CAS No	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Misch metal, cerium	62379-61-7	-	-	-
Cerium	7440-45-1	-	-	-
Lanthanum	7439-91-0	-	-	-
Neodymium	7440-00-8	-	Use restricted. See item 75. (see link for restriction details)	-
Praseodymium	7440-10-0	-	-	-

REACH links

<https://echa.europa.eu/substances-restricted-under-reach>

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

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Misch metal, cerium	62379-61-7	Not applicable	Not applicable	Not applicable	Not applicable
Cerium	7440-45-1	Not applicable	Not applicable	Not applicable	Not applicable
Lanthanum	7439-91-0	Not applicable	Not applicable	Not applicable	Not applicable
Neodymium	7440-00-8	Not applicable	Not applicable	Not applicable	Not applicable
Praseodymium	7440-10-0	Not applicable	Not applicable	Not applicable	Not applicable

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?

Not applicable

Other International Regulations

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Misch metal, cerium	62379-61-7	Not applicable	Not applicable	Not applicable	Not applicable
Cerium	7440-45-1	Not applicable	Not applicable	Not applicable	Not applicable
Lanthanum	7439-91-0	Not applicable	Not applicable	Not applicable	Not applicable
Neodymium	7440-00-8	Not applicable	Not applicable	Not applicable	Not applicable
Praseodymium	7440-10-0	Not applicable	Not applicable	Not applicable	Not applicable

16. Other information

Prepared By Health, Safety and Environmental Department
Email: chem.techinfo@thermofisher.com
www.thermofisher.com

Creation Date 18-Apr-2011
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Revision Summary New emergency telephone response service provider.

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

End of SDS