

Trade name: Mediloy® Titan Grade 5 SLM**Product no.:** 811411**Current version:** 1.0.0, issued: 25.11.2025**Replaced version:** -, issued: -**Region:** USA**SECTION 1: Identification****1.1 Product identifier**

Trade name

Mediloy® Titan Grade 5 SLM**1.2 Recommended use of the chemical and restrictions on use****Recommended use of the chemical and restrictions on use**

Manufacturing of dental prosthesis in a dental laboratory

Restrictions on use

No data available.

1.3 Details of the supplier of the safety data sheet**Address**BEGO USA, Inc.
24 Albion Road, Suite 103
Lincoln RI 02865Telephone no. 401-334-9261
e-mail begoinfo@begousa.com**1.4 Emergency phone number**BEGO USA
+1 401-334-9261 (8.30 a.m - 5.00 p.m EST)**SECTION 2: Hazard(s) identification****2.1 Classification of the chemical****Classification of the chemical in accordance with paragraph (d) of 29 CFR § 1910.1200 "Hazard Communication"**

Flammable Solids - Category 1

2.2 Label elements**Pictogram(s)****Signal word**

Danger

Hazard Statement(s)

Physical hazards Flammable solid

Precautionary Statement(s)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.
Response In case of fire: Use dry sand or metal fire powder to extinguish. Never use water.**2.3 Labelling information**

No data available

2.4 Hazards not otherwise classified (HNOC)

No data available

SECTION 3: Composition / information on ingredients**3.1 Substances**

Not applicable. The product is not a substance.

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3.2 Mixtures

Hazardous ingredients

No	Substance name	Concentration	%
	CAS no.		
1	titanium		
	7440-32-6	>= 70.00 - < 80.00	%-b.w.
2	aluminium powder (stabilised)		
	7429-90-5	>= 5.00 - < 10.00	%-b.w.

3.3 Other information

The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of 29 CFR 1910.1200

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

General information

Remove contaminated clothing and shoes and launder thoroughly before reusing.

After inhalation

Remove affected person from the immediate area. Fresh air. Get medical attention if pain still persists.

After skin contact

Wash off immediately with soap and water.

After eye contact

Remove contact lenses, irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart and seek medical advice.

After ingestion

Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person. Do not induce vomiting. Call a doctor.

4.2 Most important symptoms and effects, both acute and delayed

No data available.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Dry sand; Metal fire powders; table salt

Unsuitable extinguishing media

Water; ABC powder; Halogenated agents

5.2 Specific hazards arising from the chemical

Formation of explosive mixtures with air is possible. In the event of fire, the following can be released: Metal oxides; Hydrogen

5.3 Special protective equipment and precautions for fire-fighters

Use self-contained breathing apparatus. Adapt extinguisher and fire-fighting measures to fire in the environment. Wear full protective suit.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Refer to protective measures listed in sections 7 and 8. Ensure adequate ventilation. Avoid dust formation. Keep away from ignition sources.

For emergency responders

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Personal protective equipment (PPE) - see Section 8.

6.2 Methods and materials for containment and cleaning up

Pick up mechanically or by appropriate industrial vacuum cleaner. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Clean thoroughly. When collected, handle material as described under the section heading "Disposal considerations".

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Precautions for safe handling

Avoid the formation and deposition of dust. Provide good ventilation of working area (local exhaust ventilation if necessary).

General protective and hygiene measures

Do not eat, drink or smoke during work time. Keep away from foodstuffs and beverages. Wash hands before breaks and after work. Do not inhale dust. Remove soiled or soaked clothing immediately. Avoid contact with eyes and skin.

Advice on protection against fire and explosion

Dust can form an explosive mixture with air. Take precautionary measures against static charges. Keep away from sources of ignition - refrain from smoking. No sparking tools should be used.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions

Keep container tightly closed and dry in a cool, well-ventilated place.

Requirements for storage rooms and vessels

Containers which are opened must be carefully resealed and kept upright to prevent leakage. Always keep in containers of same material as the original.

Incompatible products

Do not store together with: Substances to be avoided: see chapter 10.

SECTION 8: Exposure controls / personal protection

8.1 Control parameters

Occupational exposure limit(s)

No	Substance name	CAS no.
1	Dust	
	OSHA Permissible Exposure Limits (PELS)	
	Particulates not otherwise regulated (PNOR) Total dust	
	TWA	15 mg/m ³
	OSHA Permissible Exposure Limits (PELS)	
	Particulates not otherwise regulated (PNOR) Respirable fraction	
	TWA	5 mg/m ³
2	aluminium powder (stabilised)	7429-90-5
	ACGIH Threshold Limit Values	
	Aluminum metal and insoluble compounds	
	TWA	1 (R) mg/m ³
	Remarks	A4
	OSHA Permissible Exposure Limits (PELS)	
	Aluminum Metal (as Al) Total dust	
	TWA	15 mg/m ³
	OSHA Permissible Exposure Limits (PELS)	
	Aluminum Metal (as Al) Respirable fraction	
	TWA	5 mg/m ³

8.2 Exposure controls

Appropriate engineering controls

Provide good ventilation of working area (local exhaust ventilation if necessary).

Individual protection measures, such as personal protective equipment

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Respiratory protection

If workplace exposure limits are exceeded, a respiration protection approved for this particular job must be worn. In case of dust formation, take appropriate measures for breathing protection in the event that workplace threshold values are not specified.

Respirator P2, P3

Eye / face protection

Tightly fitting safety glasses

Hand protection

In case of thermal processing, thermally insulating protective gloves are to be used. Before use, the protective glove should be tested in any case for its specific work-station suitability (i.e. mechanical resistance, product compatibility and antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves. Protective gloves shall be replaced immediately when physically damaged or worn. Design operations thus to avoid permanent use of protective gloves.

Appropriate Material nitrile rubber
Breakthrough time > 480 min

Other protection measures

Normal chemical work clothing.

SECTION 9: Physical and chemical properties

Form/Color	
solid; Powder	
gray; metallic	
Odor	
odorless	
Odor threshold	
No data available	
pH value	
No data available	
Boiling point / boiling range	
Value	> 3000 °C
Melting point / melting range	
Value	1660 °C
Source	supplier
Decomposition point / decomposition range	
No data available	
Flash point	
Not applicable	
Ignition temperature	
Value	> 300 °C
Method	DIN EN ISO / IEC 80079-20-2
Auto-ignition temperature	
No data available	
Oxidising properties	
not oxidizing	
Explosive properties	
Dust explosion class St 1	
Flammability	
flammable	
Lower flammability or explosive limits	
No data available	

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No data available

Vapor pressure

Not applicable

Vapor density

Not applicable

Evaporation rate

No data available

Relative density

No data available

Density

Value	4.5	g/cm ³
Reference temperature	20	°C
Source	supplier	

Solubility in water

Remarks insoluble

Solubility(ies)

No data available

Partition coefficient: n-octanol/water

No data available

Viscosity

Not applicable

Other information**Other information**

Minimum ignition energy (MIE): 55 mJ
 Dust deflagration index (Kst): 42 bar*m/s
 Maximum explosion pressure (Pmax): 5,81 barg
 Maximum rate of pressure rise [(dP/dt)max]: 155
 Minimum Explosible Concentration (MEC): 60<MEC<80 g/m³
 Limiting oxygen concentration (LOC): 7.5 % O₂
 Minimum Auto-Ignition Temperature dust-cloud (MAIT): 750 °C
 Minimum Ignition Temperature dust layer (MIT): >450 °C

SECTION 10: Stability and reactivity**10.1 Reactivity**

Dangerous reactions are not expected if the product is handled according to its intended use.

10.2 Chemical stability

Stable under recommended storage and handling conditions(See section 7).

10.3 Possibility of hazardous reactions

Dust can form an explosive mixture with air.

10.4 Conditions to avoid

Heat, open flames and other sources of ignition. Moisture; Avoid formation of dust.

10.5 Incompatible materials

Acids; Alkalis; Oxidizing agents; Halogenated compounds

10.6 Hazardous decomposition products

None if stored, handled and transported properly.

SECTION 11: Toxicological information

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Information on toxicological effects

Acute oral toxicity
No data available
Acute dermal toxicity
No data available
Acute inhalational toxicity
No data available
Skin corrosion/irritation
No data available
Serious eye damage/irritation
No data available
Respiratory or skin sensitisation
No data available
Germ cell mutagenicity
No data available
Reproduction toxicity
No data available
Carcinogenicity
No data available
NTP Report on Carcinogens (RoC)
According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substance(s) listed "known" (to be a human carcinogen) or "RAHC" (reasonably anticipated to be a human carcinogen).
OSHA Standards listing cancer as a health effect (Table VII.6.2)
According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substance(s) listed as carcinogenic.
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans
According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substance(s) classified by the IARC Monographs.
STOT - single exposure
No data available
STOT - repeated exposure
No data available
Aspiration hazard
No data available
Delayed and immediate effects as well as chronic effects from short and long-term exposure
Inhalation of vapours in high concentration may cause metal fume fever and may cause damage of the central nervous system in case of repeated and prolonged exposure. Repeated and prolonged exposure to high dust concentrations may lead to irritation of the respiratory tract. Inhalation of metal-containing dusts may cause acute poisoning, leading to nausea, vomiting and abdominal pain.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish (acute)
No data available
Toxicity to fish (chronic)
No data available
Toxicity to Daphnia (acute)

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No data available
Toxicity to Daphnia (chronic)
No data available
Toxicity to algae (acute)
No data available
Toxicity to algae (chronic)
No data available
Bacteria toxicity
No data available

12.2 Persistence and degradability

No data available.

12.3 Bioaccumulative potential

No data available.

12.4 Mobility in soil

No data available.

12.5 Other adverse effects

No data available.

12.6 Other information

Other information
Do not discharge product unmonitored into the environment.

SECTION 13: Disposal considerations

13.1 Disposal considerations

Product

Dispose in accordance with federal, state and local regulations.

Packaging

Residuals must be removed from packaging and when emptied completely disposed of in accordance with the regulations for waste removal. Incompletely emptied packaging must be disposed of in accordance with federal, state and local regulations.

SECTION 14: Transport information

14.1 US DOT (Department of Transportation)

Transport hazard class	4.1
Packaging group	II
UN/NA number	UN3089
UN proper shipping name	Metal powders, flammable, n.o.s
Label code(s)	4.1
Danger releasing substance	titanium aluminium powder (stabilised)

14.2 Transport IMDG

Class	4.1
Packaging group	II
UN number	UN3089
Proper shipping name	METAL POWDER, FLAMMABLE, N.O.S.
Danger releasing substance	titanium aluminium powder (stabilised)
EmS	F-G, S-G
Label	4.1

14.3 Transport ICAO-TI / IATA

Class	4.1
Packaging group	II
UN number	UN3089

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Proper shipping name	Metal powder, flammable, n.o.s.
Danger releasing substance	titanium
	aluminium powder (stabilised)
Label	4.1

14.4 Other information

No data available.

14.5 Environmental hazards

Information on environmental hazards, if relevant, pls. see 14.1 - 14.3.

14.6 Special precautions for user

No data available.

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

Not relevant

SECTION 15: Regulatory information

15.1 US Federal Regulations

Toxic Substances Control Act (TSCA)

According to the data available and/or specifications supplied by upstream suppliers, all components of this product are on the TSCA Inventory listed as active or are exempted from notification requirements.

CERCLA (Comprehensive Environmental Response, Compensation and Liability Act)

According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substance(s) that are considered being subject to Table 302.4 "List of Hazardous Substances and Reportable Quantities".

Clean Air Act (CAA): Hazardous Air Pollutants (HAPS)

According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substance(s) that are considered being "Hazardous Air Pollutants".

Clean Water Act (CWA) Section 307 (Toxic Pollutants) and Section 311 (Hazardous Substances)

According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substance(s) that are considered to be "Hazardous Substances".

EPCRA SARA Section 313, Toxic Chemical Release Inventory

The product contains following substance(s) that are considered being subject to "SARA Reporting".

No	Substance name	CAS no.
1	aluminium powder (stabilised)	7429-90-5
2	Vanadium	7440-62-2

Emergency Planning & Community Right-to-Know Act (EPCRA) - Sections 302 and 304

According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substance(s) that are considered being subject to reporting requirements.

Clean Air Act (CAA) - Section 602 Ozone depleting substances

According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substance(s) listed as ozone depleting substance.

15.2 US State Regulations

Pennsylvania State Right to Know Hazardous Substance List

The product contains following substance(s) that are considered to be "Hazardous Substances".

No	Substance name	CAS no.
1	aluminium powder (stabilised)	7429-90-5
2	Vanadium	7440-62-2

New Jersey State Right to Know Hazardous Substance List

The product contains following substance(s) that are considered to be "Hazardous Substances".

No	Substance name	CAS no.
1	aluminium powder (stabilised)	7429-90-5
2	titanium	7440-32-6
3	Vanadium	7440-62-2

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The product contains following substance(s) that are considered to be "Hazardous Substances".

No	Substance name	CAS no.
1	aluminium powder (stabilised)	7429-90-5
2	Vanadium	7440-62-2

California Code of Regulations Title 8 §339, Hazardous Substances List

The product contains following substance(s) that are considered to be "Hazardous Substances".

No	Substance name	CAS no.
1	aluminium powder (stabilised)	7429-90-5
2	titanium	7440-32-6
3	Vanadium	7440-62-2

Proposition 65 (Safe Drinking Water and Toxic Enforcement Act)According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any relevant substance(s) in concentrations $\geq 0,1\%$.**SECTION 16: Other information, including date of preparation or last revision****16.1 Other information**

No data available.

16.2 Date of preparation/revision of the SDS

Current version 1.0.0 25.11.2025

Replaced version - -

16.3 Department issuing safety data sheet

UMCO GmbH - D-21107 Hamburg, Georg-Wilhelm-Strasse 187, Tel.: +49(40)555 546 300, Fax: +49(40)555 546 357, e-mail: umco@umco.de

16.4 Conclusions

This information is based on our present knowledge and experience.

The safety data sheet describes products with a view to safety requirements.

It does not, however, constitute a guarantee for any specific product properties and shall not establish a legally valid contractual relationship.

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Prod-ID 811837

16.5 Key / Legend

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ACGIH - American Conference of Governmental Industrial Hygienists
ATE – Acute Toxicity Estimate
BOD - Biochemical Oxygen Demand
CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania*;
CAS - Chemical Abstracts Service
CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act
CFR - Code of Federal Regulations (US)
CLP - Classification, Labelling, and Packaging
DOT - Department of Transportation Commission
ECHA – European Chemicals Agency
EC / EL – Effective Concentration / Effective Loading
EPA - Environmental Protection Agency
IARC - International Agency for Research on Cancer
IATA - International Air Transport Association
IBC – Intermediate Bulk Container
ICAO - International Civil Aviation Organization
IDL - Ingredient Disclosure List
IDLH - Immediately Dangerous to Life and Health
IMDG - International Maritime Dangerous Goods
IUCLID - International Uniform Chemical Information Database
Kow - Octanol/water partition coefficient
LD/LC - Lethal Dose/ Lethal Concentration
MARPOL – Marine Pollution
MEL - Maximum Exposure Limits
NFPA - National Fire Protection Agency
NIOSH - National Institute for Occupational Safety and Health
NJTSR - New Jersey Trade Secret Registry
NOEL/NOEC – No Observed Effect Level / No Observed Effect Concentration
NTP - National Toxicology Program
OSHA - Occupational Safety and Health Administration
PEL - Permissible Exposure Limit
RCRA - Resource Conservation and Recovery Act
SARA - Superfund Amendments and Reauthorization Act
STEL - Short-term Exposure Limit
STOT – Specific Target Organ Toxicity
TDG - Transportation of Dangerous Goods
TLV - Threshold Limit Value
TSCA - Toxic Substances Control Act
TWA - Time Weighted Average
UN/NA - United Nations /North American
US - United States
VLE - Exposure Limit Value (Mexico)
VOC – Volatile Organic Compounds