ALPHACEL® TUNGSTEN ACCELERATORS

Alpha Resources LLC

Safety Data Sheet

Issue Date: 08/12/2021

SECTION 1 Identification

Product Identifier

Product Name	ALPHACEL TUNGSTEN ACCELERATORS
Chemical Name	Tungsten
Part Numbers	AEB1505, AR027, AR027B, AR266, AR266B, AR7629, AR7630, AR7631, AR7632, AR02530, AR02530-2500
Chemical Formula	W
CAS Number	7440-33-7

Company Information

Registered Company Name	Alpha Resources LLC
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Emergency Phone Number

Association / Organization	CHEMTREC
Emergency Telephone No.	(800) 424-9300

SECTION 2 Hazard(s) Identification

Classification of the Substance or Mixture

NFPA 704 Diamond

Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health, Red = Fire, Yellow = Reactivity, White = Special (Oxidizer or water reactive substances)

Classification	Eye Irritation Category 2B

Label Elements

Hazard Pictogram(s)	Not Applicable
Signal Word	Warning

Hazard Statement(s)

H320	Causes eye irritation

Hazard(s) not Otherwise Classified

Not applicable

Precautionary Statement(s) Prevention

P264	Wash all exposed external body areas thoroughly after handling

Precautionary Statement(s) Response

P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes, remove contact lenses, if present and easy to do, continue rinsing
P337+P313	If eye irritation persists: Get medical advice/attention

Precautionary Statement(s) Storage

Not Applicable

Precautionary Statement(s) Disposal

Not Applicable

SECTION 3 Composition / Information on Ingredients

Substances

CAS No	%[weight]	Name
7440-33-7	100	tungsten

SECTION 4 First-Aid Measures

Description of First Aid Measures

Eye Contact	If this product comes in contact with the eyes: ➢ Wash out immediately with fresh running water. ➢ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ➢ Seek medical attention without delay; if pain persists or recurs, seek medical attention. ➢ DO NOT attempt to remove particles attached to or embedded in the eye. ➢ Lay victim down and pad BOTH eyes, making sure dressing does not press on the injured eye by placing thick pads under dressing, above and below the eye. ➢ Seek urgent medical assistance, or transport to the hospital.
Skin Contact	If skin contact occurs: ➢ Flush skin and hair with running water (and soap if available). ➢ Seek medical attention in event of irritation.
Inhalation	➢ If fumes or combustion products are inhaled remove from contaminated area. ➢ Lay patient down. Keep warm and rested. ➢ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. ➢ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. ➢ Transport to hospital, or doctor, without delay.
Ingestion	➢ Immediately give a glass of water. ➢ First aid is not generally required. If in doubt, contact a Poison Center or a doctor.

Most important symptoms and effects, both acute and delayed

See Section 11

SECTION 5 Fire-Fighting Measures

Extinguishing Media

- DO NOT USE WATER, CO2 OR FOAM.
- Use DRY sand, graphite powder, dry sodium chloride-based extinguishers, G-1 or Met L-X to smother fire.

Special hazards arising from the substrate or mixture

Fire Incompatibility	Reacts with acids producing flammable / explosive hydrogen (H2) gas. None known.

Special protective equipment and precautions for fire-fighters

Fire Fighting	➢ Alert fire department and tell them location and nature of hazard. ➢ Wear breathing apparatus plus protective gloves in the event of a fire. ➢ Prevent, by any means available, spillage from entering drains or water courses. ➢ Use fire fighting procedures suitable for surrounding area. ➢ Cool fire exposed containers with water spray from a protected location. ➢ Equipment should be thoroughly decontaminated after use.
Fire / Explosion Hazard	➢ DO NOT disturb burning dust. Explosion may result if dust is stirred into a cloud, by providing oxygen to a large surface of hot metal. ➢ DO NOT use water or foam as generation of explosive hydrogen may result. ➢ Does not represent unusual fire risk due to ability to conduct heat away from hot spots so efficiently that the heat of combustion cannot be maintained. ➢ Decomposition may produce toxic fumes of metal oxides and tungsten. ➢ May emit poisonous or corrosive fumes.

SECTION 6 Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	➢ Remove all ignition sources. ➢ Clean up all spills immediately. ➢ Avoid contact with skin and eyes. ➢ Control personal contact with the substance by using protective equipment. ➢ Use dry clean up procedures and avoid generating dust. ➢ Place in a suitable, labelled container for waste disposal.
Major Spills	➢ Control personal contact by wearing protective clothing. ➢ Prevent, by any means available, spillage from entering drains or water courses. ➢ Recover product wherever possible. ➢ IF MOLTEN: Contain the flow using dry sand or salt flux as a dam. Allow to cool before remelting scrap. ➢ IF DRY: Use dry clean up procedures and avoid generating dust. Collect residues and place in sealed plastic bags or other containers for disposal. IF WET: Vacuum/shovel up and place in labelled containers for disposal. ➢ ALWAYS: Wash area down with large amounts of water and prevent runoff into drains.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and Storage

Precautions for safe handling

Safe Handling	➢ Avoid all personal contact, including inhalation. ➢ Use in a well-ventilated area. ➢ Wear protective clothing when risk of exposure occurs. ➢ Avoid contact with incompatible materials. ➢ Avoid physical damage to containers. ➢ When handling, NEVER eat, drink, or smoke. ➢ Keep containers securely sealed when not in use. ➢ Always wash hands with soap and water after handling. ➢ For molten metals: Molten metal and water can be an explosive combination.

Conditions for safe storage, including any incompatibilities

Suitable Container	❖ Polyethylene or polypropylene container. ❖ Check all containers are clearly labelled and free from leaks.
Storage Incompatibility	❖ None known.

SECTION 8 Exposure Controls / Personal Protection

Control parameters

- ❖ **Occupational Exposure Limits (OEL)**
- ❖ **INGREDIENT DATA**

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
US NIOSH Recommended Exposure Limits (RELs)	Tungsten	Tungsten metal, wolfram	5 mg/m3	10 mg/m3	Not Available	Not Available
US ACGIH Threshold Limit Values (TLV)	Tungsten	Tungsten and compounds, in the absence of cobalt, as W	3 mg/m3	Not Available	Not Available	TLV Basis: Lung dam
US OSHA Permissible Exposure Limits (PELs) Table Z-1/Z-3	Tungsten	Respirable fraction (Dust)	5 mg/m3	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-1/Z-3	Tungsten	Total dust	15 mg/m3	Not Available	Not Available	Not Available

- ❖ **Emergency Limits**

Ingredient	TEEL-1	TEEL-2	TEEL-3
Tungsten	10 mg/m3	330 mg/m3	2,000 mg/m3

Ingredient	Original IDLH	Revised IDLH
Tungsten	Not Available	Not Available

Exposure Controls

Engineering Controls	➢ Exhaust ventilation should be designed to prevent accumulation and recirculation in the workplace and safely remove dust from the air.
Personal Protection	
Eye and Face Protection	➢ Safety glasses with side shields. ➢ Chemical goggles. ➢ Eye wash unit.
Skin and Body Protection	➢ Overalls. ➢ PVC apron. ➢ Barrier cream or skin cleansing cream.
Hand Protection	➢ Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended. ➢ Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include frequency and duration of contact, chemical resistance of glove material, glove thickness, and dexterity. ➢ Wear chemical protective gloves, e.g. polychloroprene, nitrile rubber, butyl rubber, fluorocaoutchouc, or polyvinyl chloride. ➢ Gloves should be examined for wear and/or degradation constantly.
Respiratory Protection	➢ Particulate. (AS/NZS 1716 & 1715, EN 143:2000 & 149:001, ANSI Z88 or national equivalent)

SECTION 9 Physical and Chemical Properties

Information on basic physical and chemical properties

ALPHACEL® TUNGSTEN ACCELERATORS

Appearance	Grey metallic solid (powder) with no odor; insoluble and sinks in water.
Physical State	Divided solid
Odor	Odorless
Melting Point / Freezing Point (°C)	3422
Initial Boiling Point / Boiling Range (°C)	5555
Relative Density (Water = 1)	19.3
Solubility in Water	Insoluble
Molecular Weight	183.85

SECTION 10 Stability and Reactivity

Reactivity	See section 7
Chemical Stability	➢ Product is considered stable. ➢ Hazardous polymerization will not occur.
Possibility of Hazardous Reactions	See section 7
Conditions to Avoid	See section 7
Incompatible Materials	See section 7
Hazardous Decomposition Products	See section 5

SECTION 11 Toxicological Information

Information on toxicological effects

Inhaled	Material is relatively inert and produces few respiratory effects.
Ingestion	Not normally a hazard due to the physical form of product. The material is a physical irritant to the gastrointestinal tract. Tungsten can accumulate in the spleen, kidney, and liver. Symptoms of poisoning include diarrhea, stoppage of breathing, and circulatory collapse leading to death.
Skin Contact	No adverse health effects or skin irritation.
Eye	May cause eye irritation.
Chronic	Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. Metallic dusts give rise to several potential health problems. Larger particles, above 5 micron, are nose and throat irritants.

Tungsten	Toxicity –Oral (Rat) LD50; >2000 mg/kg Toxicity – Dermal (Rat) LD50; >2000 mg/kg Irritation – Skin (Rabbit): 500 mg/24 h – mild Irritation – Skin: no adverse effect observed (not irritating) Irritation – Eyes (Rabbit): 500 mg/24 h - mild Irritation – Eye: no adverse effect observed (not irritating)

Acute Toxicity	X	Carcinogenicity	X
Skin Irritation/Corrosion	X	Reproductivity	X
Serious Eye Damage/Irritation	√	STOT – Single Exposure	X
Respiratory or Skin Sensitization	X	STOT – Repeated Exposure	X
Mutagenicity	X	Aspiration Hazard	X

Legend: X *– Data either not available or does not fill the criteria for classification*

√ *- Data available to make classification.*

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SECTION 12 Ecological Information

Toxicity

Endpoint	Test Duration (hr)	Species	Value
LC50	96	Fish	>181 mg/L
EC50	48	Crustacea	>163 mg/L
EC50	72	Algae or other aquatic plants	7.35 mg/L
NOEC	72	Algae or other aquatic plants	0.812 mg/L

DO NOT discharge into sewer or waterways

Persistence and Degradability – No data available

Bioaccumulative Potential – No data available

Mobility in Soil – No data available

SECTION 13 Disposal Considerations

Waste Treatment Methods

Product / Packaging Disposal	➢ Legislation addressing waste disposal requirements may differ by country, state and/or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked. ➢ This material may be recycled if unused, or if it has not been contaminated to make it unsuitable for its intended use. ➢ DO NOT allow wash water from cleaning or process equipment to enter drains. ➢ It may be necessary to collect all wash water for treatment before disposal. ➢ In all cases, disposal to sewer may be subject to local laws and regulations and these should be considered first.

SECTION 14 Transport Information

Labels Required

Marine Pollutant	NO

Land transport (DOT): Not Regulated for Transport of Dangerous Goods

Air transport (ICAO-IATA / DGR): Not Regulated for Transport of Dangerous Goods

Sea transport (IMDG-Code / GGVSee): Not Regulated for Transport of Dangerous Goods

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product Name	Group
Tungsten	Not Available

Transport in bulk in accordance with the ICG Code

Product Name	Ship Type
Tungsten	Not Available

SECTION 15 Regulatory Information

Safety, Health, and Environmental Regulations / Legislation Specific for the Substance or Mixture

❖ **tungsten (7440-33-7) is found on the following regulatory lists**

US – California – Biomonitoring – Priority Chemicals
US ACGIH Threshold Limit Values (TLV)

US DOE Temporary Emergency Exposure Limits (TEELs)
US NIOSH Recommended Exposure Limits (RELs)
US OSHA Permissible Exposure Limits (PELs) Table Z-1
US OSHA Permissible Exposure Limits (PELs) Table Z-3
US Toxic Substances Control Act (TSCA) – Chemical Substance Inventory
US TSCA Chemical Substance Inventory – Interim List of Active Substances

Federal Regulations

Superfund Amendments and Reauthorization Act of 1986 (SARA)

❖ **Section 311/312 hazard categories**

Flammable (Gases, Aerosols, Liquids, or Solids)	No
Gas under pressure	No
Explosive	No
Self-heating	No
Pyrophoric (Liquid or Solid)	No
Pyrophoric Gas	No
Corrosive to metal	No
Oxidizer (Liquid, Solid, or Gas)	No
Organic Peroxide	No
Self-reactive	No
In contact with water emits flammable gas	No
Combustible Dust	No
Carcinogenicity	No
Acute toxicity (any route of exposure)	No
Reproductive toxicity	No
Skin Corrosion or Irritation	No
Respiratory or Skin Sensitization	No
Serious eye damage or eye irritation	No
Specific target organ toxicity (single or repeated exposure)	No
Aspiration Hazard	No
Germ cell mutagenicity	No
Simple Asphyxiant	No
Hazards Not Otherwise Classified	No

❖ **US EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)**

None Reported

State Regulations

❖ **US California Proposition 65**

None Reported

National Inventory Status

National Inventory	Status
Australia – AIIC / Australia Non-Industrial Use	Yes
Canada – DSL	Yes
Canada – NDSL	No (tungsten)
China – IECSC	Yes
Europe – EINEC / ELINCS / NLP	Yes

Japan – ENCS	No (tungsten)
Korea – KECI	Yes
New Zealand – NZIoC	Yes
Philippines – PICCS	Yes
USA – TSCA	Yes
Taiwan – TCSI	Yes
Mexico – INSQ	Yes
Vietnam – NCI	Yes
Russia – FBEPH	Yes
Legend:	*Yes = All CAS declared ingredients are on the inventory* *No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing (see specific ingredients in brackets)*

SECTION 16 Other Information

Revision Date	08/12/2021
Initial Date	08/16/2018

The data and information as stated was furnished by the manufacturer/vendor/supplier of this product. Alpha Resources LLC cannot warrant the accuracy of this information and shall not be responsible or liable for any damage that may result, should any of the information be erroneous.