

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/01/2022

Version 4.0

Last revision 06/01/2022

1 Identification

- **Product name:** Carbide End Mills
- **Part number:**
15-922F0.25 - 15-922FP3.0
15-924F0.7 - 15-924FP1.0-3
- **Application of the substance / the mixture** Abrasive
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Allied High Tech Products Inc.
2376 East Pacifica Place
USA-RANCHO DOMINGUEZ, CA 90220
USA
info@alliedhightech.com
- **Information department:** Product safety department
- **Emergency telephone number:**
During normal opening times: +1 (310) 635-2466
Chemtrec: +1 (202) 483-7616

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

- | | |
|--|---|
| Sensitization - Respiratory 1 | H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| Germ Cell Mutagenicity 2 | H341 Suspected of causing genetic defects. |
| Carcinogenicity 2 | H351 Suspected of causing cancer. Route of exposure: Inhalation. |
| Toxic to Reproduction 1B | H360 May damage fertility or the unborn child. |
| Specific Target Organ Toxicity - Repeated Exposure 1 | H372 Causes damage to the respiratory system through prolonged or repeated exposure. Route of exposure: Inhalation. |



GHS07

- | | |
|------------------------|---|
| Sensitization - Skin 1 | H317 May cause an allergic skin reaction. |
|------------------------|---|

- **Additional information:**

Based on health effects for dust

All components listed for this product are bound within the product. When handled as intended and under normal conditions of use, there is no evidence that any of the ingredients are released in amounts that pose a significant health risk.

- **Label elements**

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

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Hazard pictograms

GHS08

Signal word Danger**Hazard-determining components of labeling:**

cobalt
nickel powder (particle diameter < 1 mm)

Hazard statements

May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Suspected of causing genetic defects.
Suspected of causing cancer. Route of exposure: Inhalation.
May damage fertility or the unborn child.
Causes damage to the respiratory system through prolonged or repeated exposure. Route of exposure: Inhalation.

Precautionary statements

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.
[In case of inadequate ventilation] wear respiratory protection.
If on skin: Wash with plenty of water.
If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.
IF exposed or concerned: Get medical advice/attention.
Specific treatment (see on this label).
Get medical advice/attention if you feel unwell.
If skin irritation or rash occurs: Get medical advice/attention.
If experiencing respiratory symptoms: Call a poison center/doctor.
Wash contaminated clothing before reuse.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/information on ingredients

Chemical characterization: Mixtures**Description:** Mixture of the substances listed below with nonhazardous additions.**Hazardous components and components with occupational exposure limits:**

12070-12-1	tungsten carbide	50-60%
7440-33-7	tungsten	20-30%
7440-48-4	cobalt ⚠ Sensitization - Respiratory 1, H334; Germ Cell Mutagenicity 2, H341; Carcinogenicity 1B, H350; Toxic to Reproduction 1B, H360; ⚠ Sensitization - Skin 1, H317; Aquatic Chronic 4, H413	5-10%
12070-06-3	Tantalum Carbide ⚠ Specific Target Organ Toxicity - Single Exposure 3, H335	5-10%
7440-02-0	nickel powder (particle diameter < 1 mm) ⚠ Carcinogenicity 2, H351; Specific Target Organ Toxicity - Repeated Exposure 1, H372; ⚠ Sensitization - Skin 1, H317; Aquatic Chronic 3, H412	1-<2.5%
7440-25-7	tantalum	1-5%
7440-47-3	chromium	1-5%

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- **Additional information:** The specific chemical identity and/or exact percentage of the composition has been withheld as a trade secret.

4 First-aid measures

- **Description of first aid measures**
- **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**
Asthma attacks
Breathing difficulty
Eye irritation
Coughing
Allergic reactions
Dermatitis
Dermatitis
- **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Wear fully protective suit.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation
Keep away from ignition sources
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store in a cool location.
No special requirements.
- **Information about storage in one common storage facility:** Not required.

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- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store receptacle in a well ventilated area.
- **Specific end use(s)** No further relevant information available.

* 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
At this time, the remaining constituent has no known exposure limits.

12070-12-1 tungsten carbide	
REL	Short-term value: 10 mg/m ³ Long-term value: 5 mg/m ³ as W
TLV	Long-term value: 3* mg/m ³ as W; * respirable fraction
7440-33-7 tungsten	
PEL	and insoluble compounds, as We
REL	Short-term value: 10 mg/m ³ Long-term value: 5 mg/m ³ as W
TLV	Long-term value: 3* mg/m ³ as W; * respirable fraction
7440-48-4 cobalt	
PEL	Long-term value: 0.1* mg/m ³ as Co; *for metal dust and fume
REL	Long-term value: 0.05 mg/m ³ as Co; metal dust & fume
TLV	Long-term value: 0.02* mg/m ³ *inh. fraction; DSEN, RSEN, BEI, A3
7440-02-0 nickel powder (particle diameter < 1 mm)	
PEL	Long-term value: 1 mg/m ³
REL	Long-term value: 0.015 mg/m ³ as Ni; See Pocket Guide App. A
TLV	Long-term value: 1.5* mg/m ³ elemental, *inhalable fraction, A5, BEI
7440-25-7 tantalum	
PEL	Long-term value: 5 mg/m ³ metal
REL	Short-term value: 10 mg/m ³ Long-term value: 5 mg/m ³ Metal
TLV	metal; TLV withdrawn due to insufficient data
7440-47-3 chromium	
PEL	Long-term value: 1 mg/m ³
REL	Long-term value: 0.5* mg/m ³ *metal+inorg.compds.as Cr;See Pocket Guide App. C
TLV	Long-term value: 0.003* 0.5** mg/m ³ inh. fraction, *as Cr(III); A4,**metal

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· Ingredients with biological limit values:	
7440-48-4 cobalt	
BEI	15 µg/L Medium: urine Time: end of shift at end of workweek Parameter: Cobalt (nonspecific)
7440-02-0 nickel powder (particle diameter < 1 mm)	
BEI	5 µg/L Medium: urine Time: post-shift at end of workweek Parameter: Nickel (background)
	30 µg/L Medium: urine Time: post-shift at end of workweek Parameter: Nickel (background)
7440-47-3 chromium	
BEI	0.7 µg/L Medium: urine Time: end of shift at end of workweek Parameter: Total chromium (population based)

· Exposure controls**· Personal protective equipment:****· General protective and hygienic measures:**

- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing.
- Wash hands before breaks and at the end of work.
- Store protective clothing separately.

· Breathing equipment: Use suitable respiratory protective device when high concentrations are present.**· Protection of hands:**

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· Eye protection:

Tightly sealed goggles

9 Physical and chemical properties

· Information on basic physical and chemical properties**· General Information****· Appearance:**

Form: Solid

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· Color:	Dark grey
· Odor:	Odorless
· Odor threshold:	Not determined.
· pH-value:	Not applicable.
· Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.
· Flash point:	Not applicable.
· Flammability (solid, gaseous):	Not determined.
· Decomposition temperature:	Not determined.
· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapor pressure:	Not applicable.
· Density:	Not determined.
· Relative density	Not determined.
· Vapor density	Not applicable.
· Specific gravity at 20 °C (68 °F):	10-15 g/cm ³ (83.45-125.175 lbs/gal) (Water = 1)
· Evaporation rate	Not applicable.
· Solubility in / Miscibility with Water:	Insoluble.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
· Solvent content:	
VOC content:	0.00 %
Solids content:	100.0 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** Keep away from oxidising agents and acidic substances.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.
- **Additional information:** Contact of dust with strong oxidizers may cause fires or explosions.

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11 Toxicological information

- **Information on toxicological effects**

- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

7440-48-4 cobalt		
Oral	LD50	6,170 mg/kg (rat)
7440-02-0 nickel powder (particle diameter < 1 mm)		
Dermal	LD50	>5,000 mg/kg (rat)

- **Primary chemical irritant effect:**

- **on the skin:** No irritant effect.

- **on the eye:** No irritating effect.

- **Sensitization:**

- Sensitization possible through inhalation.

- Sensitization possible through skin contact.

- **Additional toxicological information:**

- Abrasive skin irritant

- Abrasive eye irritant

- Carcinogenic assessment: Inhalation of air-borne cemented carbide dust may increase the risk of contracting lung cancer.

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

12070-12-1	tungsten carbide	2A
7440-48-4	cobalt	2B
7440-02-0	nickel powder (particle diameter < 1 mm)	2B
7440-47-3	chromium	3

- **NTP (National Toxicology Program)**

7440-48-4	cobalt	R
7440-02-0	nickel powder (particle diameter < 1 mm)	R

- **OSHA-Ca (Occupational Safety & Health Administration)**

- None of the ingredients is listed.

12 Ecological information

- **Toxicity**

- **Aquatic toxicity:** No further relevant information available.

- **Persistence and degradability** No further relevant information available.

- **Behavior in environmental systems:**

- **Bioaccumulative potential** No further relevant information available.

- **Mobility in soil** No further relevant information available.

- **Additional ecological information:**

- **General notes:**

- Water hazard class 1 (Self-assessment): slightly hazardous for water

- Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**

- **Recommendation:** Contact waste processors for recycling information.

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- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

<ul style="list-style-type: none"> · UN-Number · DOT, ADN, IMDG, IATA 	not regulated
<ul style="list-style-type: none"> · UN proper shipping name · DOT, ADN, IMDG, IATA 	not regulated
<ul style="list-style-type: none"> · Transport hazard class(es) · DOT, ADN, IMDG, IATA · Class 	not regulated
<ul style="list-style-type: none"> · Packing group · DOT, IMDG, IATA 	not regulated
<ul style="list-style-type: none"> · Environmental hazards: · Marine pollutant: 	No
<ul style="list-style-type: none"> · Special precautions for user 	Not applicable.
<ul style="list-style-type: none"> · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code 	Not applicable.
<ul style="list-style-type: none"> · UN "Model Regulation": 	not regulated

15 Regulatory information

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

<ul style="list-style-type: none"> · Section 355 (extremely hazardous substances): 	
None of the ingredients is listed.	
<ul style="list-style-type: none"> · Section 313 (Specific toxic chemical listings): 	
7440-48-4	cobalt
7440-02-0	nickel powder (particle diameter < 1 mm)
7440-47-3	chromium
<ul style="list-style-type: none"> · TSCA (Toxic Substances Control Act): 	
All components have the value ACTIVE.	
<ul style="list-style-type: none"> · Hazardous Air Pollutants 	
7440-48-4	cobalt
<ul style="list-style-type: none"> · Proposition 65 	
<ul style="list-style-type: none"> · Chemicals known to cause cancer: 	
7440-48-4	cobalt
7440-02-0	nickel powder (particle diameter < 1 mm)
<ul style="list-style-type: none"> · Chemicals known to cause reproductive toxicity for females: 	
None of the ingredients is listed.	
<ul style="list-style-type: none"> · Chemicals known to cause reproductive toxicity for males: 	
None of the ingredients is listed.	
<ul style="list-style-type: none"> · Chemicals known to cause developmental toxicity: 	
None of the ingredients is listed.	

- **National regulations:**
- **Additional classification according to Decree on Hazardous Materials:** Carcinogenic hazardous material group III (dangerous).

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- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Technical Services
- **Contact:** Pablo Mendoza
- **Last revision / supersedes version:** 06/01/2022 / 3.1
- **Supersedes date:** 06/11/2020
- **Abbreviations and acronyms:**
 - ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
 - IMDG: International Maritime Code for Dangerous Goods
 - DOT: US Department of Transportation
 - IATA: International Air Transport Association
 - EINECS: European Inventory of Existing Commercial Chemical Substances
 - ELINCS: European List of Notified Chemical Substances
 - CAS: Chemical Abstracts Service (division of the American Chemical Society)
 - VOC: Volatile Organic Compounds (USA, EU)
 - LC50: Lethal concentration, 50 percent
 - LD50: Lethal dose, 50 percent
 - PBT: Persistent, Bioaccumulative and Toxic
 - vPvB: very Persistent and very Bioaccumulative
 - OSHA: Occupational Safety & Health
 - TLV: Threshold Limit Value
 - PEL: Permissible Exposure Limit
 - REL: Recommended Exposure Limit
 - BEI: Biological Exposure Limit
 - Sensitization - Respiratory 1: Respiratory sensitisation – Category 1
 - Sensitization - Skin 1: Skin sensitisation – Category 1
 - Germ Cell Mutagenicity 2: Germ cell mutagenicity – Category 2
 - Carcinogenicity 1B: Carcinogenicity – Category 1B
 - Carcinogenicity 2: Carcinogenicity – Category 2
 - Toxic to Reproduction 1B: Reproductive toxicity – Category 1B
 - Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3
 - Specific Target Organ Toxicity - Repeated Exposure 1: Specific target organ toxicity (repeated exposure) – Category 1
 - Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3
 - Aquatic Chronic 4: Hazardous to the aquatic environment - long-term aquatic hazard – Category 4
- *** Data compared to the previous version altered.**