Crystallume PVD
POWERED BY ROBBJACK

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Coating Safety & Technical Data Sheet

Crystallume PVD and DLC coatings, as applied · SDS-format article information

Supplier	Crystallume PVD, a division of RobbJack Corporation, 3300 Nicolaus Road, Lincoln, CA 95648 USA
Issued to	All customers of Crystallume PVD coating services
Covered	PVD and DLC coatings applied by Crystallume PVD in Lincoln, CA (Scorpion Stinger AlTiN, Python Scales TiCN, King Cobra TiN, Murder Hornet ZrN, Rhino Hide CrN, Hercules Beetle TiCN-based bronze, Black Voodoo DLC, Black Widow Cr-DLC, Black Mamba Ti-DLC) and laser etching / marking done with the coating service. The customer's part (substrate) is outside this scope.
Issued / valid	November 2, 2026 · valid through November 2, 2027 or until the cited regulation changes
Document no.	CPVD-SDS-2026-11

Coating	Constituents (CAS No.)	Colour	Process temp.
Scorpion Stinger · AlTiN — aluminum titanium nitride	Titanium aluminum nitride, a solid solution of titanium nitride (25583-20-4) and aluminum nitride (24304-00-5)	Violet-black	450 °C
Python Scales · TiCN — titanium carbonitride	Titanium carbonitride (12654-86-3)	Grey	450 °C
King Cobra · TiN — titanium nitride	Titanium nitride (25583-20-4)	Gold	450 °C
Murder Hornet · ZrN — zirconium nitride	Zirconium nitride (25658-42-8)	Light gold	450 °C
Rhino Hide · CrN — chromium nitride	Chromium nitride (24094-93-7); chromium is trivalent/metallic, never hexavalent	Silver	350 °C
Hercules Beetle · TiCN-based bronze	Titanium carbonitride (12654-86-3)	Bronze	450 °C
Black Voodoo · DLC — PECVD diamond-like carbon	Amorphous hydrogenated carbon (carbon 7440-44-0, hydrogen); chromium-free	Black	450 °C
Black Widow · Cr-DLC — chromium-doped DLC	Amorphous carbon (7440-44-0) with metallic chromium (7440-47-3) / chromium carbide	Black	200 °C
Black Mamba · Ti-DLC — titanium-doped DLC	Amorphous carbon (7440-44-0) with titanium (7440-32-6) / titanium carbide	Black	450 °C

PVD coatings may include a thin adhesion layer of titanium, chromium or their nitrides. Every coating is 1–4 µm thick. Process gases are argon, nitrogen and hydrocarbon gas; none contains fluorine. Laser etching marks the part by locally melting or oxidizing the surface. No ink, paint, filler or other material is added.

1 · Identification	Crystallume PVD thin-film coatings (table above), applied to customer parts. Supplier: Crystallume PVD, a division of RobbJack Corporation, 3300 Nicolaus Road, Lincoln, CA 95648 USA, (916) 645-3560. Use: wear-, friction- and corrosion-resistant coating on tools and parts.
2 · Hazards	Not classified as hazardous. The coating is a 1–4 µm solid film bonded to the part, so the coated part is an **article**: no Safety Data Sheet is required under OSHA HazCom 29 CFR 1910.1200(b)(6)(v) or EU REACH Article 31. This sheet gives the same information in SDS order. An intact coated part releases nothing in normal use.
3 · Composition	See the coating table above. No substance in any coating is classified as hazardous in the form supplied.
4 · First aid	None needed for intact parts. If dust is made by grinding or stripping a coated part: move to fresh air; rinse eyes with water; wash skin with soap and water. Grinding dust is mostly the substrate; see the substrate's SDS.
5 · Fire-fighting	Not flammable. Use extinguishing media suited to the surrounding fire.
6 · Accidental release	Not applicable to a bonded coating. Collect grinding dust with a HEPA vacuum or wet methods; do not dry-sweep.
7 · Handling and storage	No special handling. Grind, resharpen or strip only with local exhaust ventilation or coolant. Store dry.
8 · Exposure controls	Intact parts: none. Grinding: OSHA PEL for particulates not otherwise regulated, 15 mg/m³ total / 5 mg/m³ respirable; chromium metal 1 mg/m³ (Rhino Hide, Black Widow); zirconium compounds 5 mg/m³ as Zr (Murder Hornet). Substrate limits (e.g. cobalt in carbide) usually govern. Safety glasses; respirator if limits may be exceeded.

9 · Physical properties	Solid thin film, 1–4 µm. Colours in the coating table above. Insoluble in water. No odour. Hardness about 1,500–3,300 HV depending on coating.
10 · Stability	Stable. Oxidizes slowly above its rated service temperature (about 350–900 °C depending on coating). No hazardous reactions.
11 · Toxicology	No adverse effects expected from intact coated parts. Ceramic nitrides and carbon films are inert. No coating constituent is a listed carcinogen in the form supplied.
12 · Ecology	Inert solids; not expected to harm the environment.
13 · Disposal	Dispose of or recycle with the coated part, under local rules for the substrate metal.
14 · Transport	Not regulated for transport (DOT, IATA, IMDG).
15 · Regulatory	EU RoHS: compliant, no exemptions. EU REACH: no Candidate List SVHC. California Prop 65: no listed chemical; no warning required for the coating. PFAS: none in the coating or used in processing. TSCA: articles. Separate signed declarations are available for each.
16 · Other	Issued November 2, 2026. Revision 1. This sheet covers the coating and laser marking only, not the customer's part.

Mike MacArthur

Authorized signature

11/02/2026

Date

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