

Guhring Coating Services

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GUHRING

SAFETY DATA SHEET

1. Guhring specialty coatings represent less than 1% of the total tool by weight. The Ingredients list below includes typical weight ranges for cutting tools to which the coatings are applied. The coating identified below is applied to the tool by Guhring.

1. IDENTIFICATION

PRODUCT NAME: TiN-S
Chemical Description: Titanium Nitride Monolayer Coating
EMERGENCY TELEPHONE NUMBER: 800-776-6170

2. HAZARD IDENTIFICATION

Emergency Overview:

Hazard Classification- Respiratory Tract irritant

GHS Label Elements: none

Pictogram:



Signal Word = warning

Hazard Statement -Avoid prolonged breathing of cutting fumes

Precautionary Statement-Use general or mechanical ventilation during cutting

HMIS

Health Hazard	1
Chronic Health Hazard	*(pg-2)
Flammability	0
Physical Hazard	0

NFPA Rating 0-0-0

Potential Health Effects:

Inhalation-May cause respiratory tract irritation during drilling

Skin-none

Eyes-none

Ingestion-none

3. COMPOSITION/INFORMATION ON INGREDIENTS

Coated mixture on steel tooling

INGREDIENT NAME	CAS #	%	TLV/TWA
Titanium (in coating)	13463-67-7	0.2-1.0	15 mg/m ³ (as metal)
Base steel tooling	None	99-99.5	None

*Source: OSHA 29 CFR 1910.1000 Table Z-1, 2 or 3 6-30-14

4. FIRST AID INFORMATION

EMERGENCY FIRST AID PROCEDURES:

Inhalation:

Remove individual from immediate work area to a supply of fresh air. At a minimum, use standard ventilation practices around operating machine tools.

Eye:

Wear approved eye protection whenever using machining tools. Use good practices when securing tooling in a machine.

5. FIRE FIGHTING MEASURES

FLASH POINT: NA LOWER (LEL): NA

FLAMMABLE LIMITS IN AIR (%): NA UPPER (UEL): NA

EXTINGUISHING MEDIA: TiN coating is not flammable. Fight fire normally based upon other materials involved.

AUTO-IGNITION: NA

SPECIAL FIRE FIGHTING PROCEDURES: As with any fire, wear self-contained breathing apparatus to avoid inhalation of hazardous decomposition products from other materials that may be involved.

SPECIAL FIRE EXPLOSION HAZARDS: None.

6. ACCIDENTAL RELEASE MEASURES

PROCEDURES TO CONTAIN AND CLEAN UP LEAKS OR SPILLS: Coating is applied to metal tooling and will not be release if tools are spilled. Pick up and properly store tooling to avoid trip hazard.

REPORTING PROCEDURE: Report all spills in accordance with Federal, State and Local reporting requirements. Guhring is not aware of any environmental reporting requirements for spilled tooling.

7. HANDLING AND STORAGE

HANDLING AND STORAGE: Store tooling in a dry place. Observe proper lifting techniques for bulk tooling.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

RESPIRATORY PROTECTION: General respiratory protection for dust/fumes

VENTILATION:

Local Exhaust:	General ventilation
Mechanical (General):	May control or enclose work area if appropriate
Special:	NA
Other:	NA

PROTECTIVE GLOVES: As needed for heat or metal slivers on tooling

EYE PROTECTION: Use safety eye wear around operating machines

OTHER PROTECTIVE CLOTHING: NA

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point @ 760 mm Hg (°C):	NA
Vapor Pressure (mm Hg @ 25°C):	NA
Vapor Density (Air = 1):	NA
Density (grams/cc):	NA
Percent Volatile by Volume (%):	NA
Evaporation Rate (Butyl Acetate = 1):	NA
Physical State:	NA
Solubility in Water (% by Weight):	NA
pH:	NA
Appearance and Odor:	Gold colored coating on tool

10. STABILITY AND REACTIVITY

<u>Stable or Unstable:</u>	Stable
<u>Incompatibility (materials to avoid):</u>	NA
<u>Hazardous Decomposition Products:</u>	NA
<u>Decomposition Temperature:</u>	NA
<u>Hazardous Polymerization:</u>	Will not occur
<u>Conditions to Avoid:</u>	NA

11. TOXICOLOGICAL INFORMATION

THRESHOLD LIMIT VALUE (TLV) AND SOURCE: TiN coating forms a wear-resistant surface on the tooling to which it is applied. A small amount of coating may be released in particulate form during normal use in machining operations. Airborne concentrations at TWA are highly unlikely due to low coating amount and small cutting surface area typically involved.

12. ECOLOGICAL INFORMATION

Used tooling may be re-coated several times before it reaches end of life. Guhring recommends returning the tooling for recoating as many times as practical and then recycling the metal tool appropriately at end-of-useful-life. No potential ecological hazards are known.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Used tooling may be re-coated several times before it reaches end of life. Guhring recommends returning the tooling for recoating as many times as practical and then recycling the metal tool appropriately at end-of-useful-life.

14. TRANSPORTATION INFORMATION

TRANSPORTATION-SHIPPING: TiN coating on tools does not classify the tooling for any hazard class per USDOT regulations. Normally the tooling to which the TiN coating is applied is not a hazardous material. Always ship tools in accordance with 49 CFR, IATA, ICAO, UN regulation, or other local regulation that may be required for the base tool material.

15. REGULATORY INFORMATION

SARA 313

Notification is not required because the titanium content of the coating is below the threshold reporting value. Reporting requirements may vary based upon other facility requirements.

EPA

TiN ingredients are not shown on EPA list of lists as regulated materials or wastes.

16. SDS INFORMATION

<u>Environmental Health & Safety Information:</u>	262-784-6730
<u>EDITION DATE:</u>	06-30-14
<u>APPROVED BY:</u>	Don Rancic

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