

CoorsTek
MATERIAL SAFETY DATA SHEET

CoorsTek, 600 Ninth Street, Golden, Colorado 80401	EMERGENCY TELEPHONE NO: (303) 278-4000		
TRADE NAME: Ceramic Marking Ink	MSDS NUMBER: 14U	DATE OF ISSUE: July 5, 1987	
CHEMICAL NAME: Marking Ink (unsintered)	SYNONYMS: Blue Marking Ink, Blue Pen Ink		
PREPARED BY: CoorsTek	REVISION: 03	REVISION DATE: 4/16/99	REVIEWED BY: EHS Inc.

1. INGREDIENTS

MATERIAL	PERCENT	ACGIH (TLV)	OSHA (PEL)
1. Cobalt Oxide (CAS # 1307-96-6)	> 90	0.02 mg/ m ³ elemental or inorganic compounds, as Co	0.1 mg/ m ³ metal, dust or fume as Co
2. Turpentine (CAS # 8006-64-2)	< 50 by weight	556 mg/m ³	100 ppm (560 mg/ m ³)
3. Bismuth Subnitrate (CAS # 1304-85-4)	< 10	Not Established	Not Established
4. Sorbitan Monostearate (CAS # 1338-41-6)	< 5	Not Established	Not Established
5. Sodium Nitrate (CAS # 7632-00-0)	< 1	Not Established	Not Established
<p>All values are Time-Weighted Averages (TWA) T = Total Particulate Matter R = Respirable Fraction of Particulate Matter</p>			

2. PHYSICAL DATA

APPEARANCE: Black Liquid	ODOR: Turpentine	MELTING POINT: NA	SPECIFIC GRAVITY (water =1): 1.50
VAPOR DENSITY (AIR = 1): 4.84	% VOLATILE BY VOLUME: 10 (160°C/320°F)	BULK DENSITY: NA	BOILING POINT: 180°C/335°F
VAPOR PRESSURE: NA	% SOLUBILITY (H ₂ O): Insoluble	EVAPORATION RATE (BuOAC = 1): NAIF	OTHER:

3. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT & METHOD: 36°C/97°F
FLAMMABLE LIMITS LEL: 0.8% UEL: NA
EXTINGUISHING MEDIA: Use Carbon Dioxide, Carbon Tetrachloride, Dry Chemical or Foam. Water may be inefficient.
SPECIAL FIRE-FIGHTING PROCEDURES: None
UNUSUAL FIRE AND EXPLOSION HAZARDS: None

4. HEALTH HAZARD DATA

PRIMARY ROUTE OF EXPOSURE: Inhalation, Dermal, Eyes, Ingestion.

EFFECTS OF OVEREXPOSURE:

ACUTE: Product may vaporize and cause irritation to eyes, skin, and respiratory tract.

CHRONIC: May cause allergic sensitization, kidney irritation, albuminuria, and hematuria.

This product is not considered a carcinogen by IARC.

5. EMERGENCY AND FIRST AID PROCEDURES

Inhalation: Move to area free from risk of further exposure. Administer oxygen or artificial respiration, as needed. Get medical attention.

Eye Contact: Flush with tepid water for at least 15 minutes while holding eyelids open. Seek medical attention if irritation develops.

Skin Contact: Remove soiled clothing and wash affected areas with soap and water. Seek medical attention if irritation develops.

Ingestion: Not a likely route exposure. If large amounts of product are ingested, do not induce vomiting and seek prompt medical attention. Never give anything by mouth to an unconscious person.

6. PHYSICAL HAZARDS

None known.

7. SPECIAL PROTECTION INFORMATION

VENTILATION:

Design details for local exhaust ventilation systems may be found in the latest edition of "Industrial Ventilation: A Manual of Recommended Practices" published by ACGIH Committee on Industrial Ventilation, PO Box 16153, Lansing, MI 48910. The need for local exhaust ventilation should be evaluated by a professional industrial hygienist. Local Exhaust systems should be designed by a professional engineer.

RESPIRATORY:

Normally none required. For air concentrations greater than the TLV (outlined in Section 1), use a NIOSH/MSHA approved organic respirator with a full face piece. The evaluation of the need for respiratory protection should be determined by a professional industrial hygienist.

EYE PROTECTION:

Safety glasses with side shields are recommended.

PROTECTIVE GLOVES:

Impervious gloves.

ALL CHEMICALS SHOULD BE HANDLED SO AS TO PREVENT EYE CONTACT AND EXCESSIVE OR REPEATED SKIN CONTACT. APPROPRIATE EYE AND SKIN PROTECTION SHOULD BE EMPLOYED. INHALATION OF DUSTS AND VAPORS SHOULD BE AVOIDED. PROPER PERSONAL PROTECTIVE EQUIPMENT SELECTION SHOULD FOLLOW THE RECOMMENDATIONS PROVIDED IN THE HAZARD ANALYSIS DONE FOR THE TASKS INVOLVED, OR AS DETERMINED BY A PROFESSIONAL INDUSTRIAL HYGIENIST.

8. CHEMICAL REACTIVITY

INCOMPATIBILITY (MATERIALS TO AVOID):

Avoid prolonged contact.

REACTIVITY:

Strong Oxidizers.

POLYMERIZABLE:

No.

STABILITY:

Stable.

HAZARDOUS DECOMPOSITION PRODUCTS:

Cobalt dust.

9. STORAGE INFORMATION

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:

Store in cool, dry area distant from heat and flames.

10. SPILL, LEAK, AND DISPOSAL INFORMATION

STEPS TO BE TAKEN IN CASE MATERIAL IS SPILLED OR RELEASED:

Secure area and obtain necessary personal protective equipment. Cover spill with inert material (such as Fuller's Earth, sand, oil adsorbent, etc.), scoop up material, and place in appropriate containers for disposal. Do not allow material to enter sewer or waterways.

EPA RCRA ID NUMBER:

N/A

WASTE DISPOSAL METHOD:

Collected liquid, incinerate in approved equipment, or use landfill according to local, state and federal regulations.

11. ADDITIONAL COMMENTS

1. This product contains the following ingredients which are listed as Special Health Hazard Substances by the State of New Jersey: None
2. This product contains the following ingredients which are listed as hazardous substances under the State of New Jersey Right-To-Know legislation: Cobalt compounds.
3. This product contains the following ingredients which are listed as Special Hazardous Substances by the Commonwealth of Pennsylvania: Sodium Nitrate (regulated under a synonym)
4. This product contains the following ingredients which are listed as Extraordinarily Hazardous Substances by the Commonwealth of Massachusetts: None
5. This product contains the following ingredients regulated as a California HWCL Hazardous Waste, as a California State Superfund Hazardous Substance, and as a Cal-OSHA Workplace Airborne Contaminant, and is listed on the Cal-OSHA Director's List of Hazardous Substances: Cobalt compounds, turpentine, and sodium nitrite.
6. Pursuant to Section 313, SARA Title III, this product contains the following reportable substances: Cobalt compounds.
7. This product contains the following ingredients regulated as an Ohio Emergency Response Law Toxic Chemical: Cobalt compounds.
8. This product contains the following ingredients listed as a Toxic Substance in the Workplace in the State of Florida: Turpentine.
9. This product contains the following ingredients listed on the Illinois Toxic Substances Disclosure to Employees List: Turpentine and Sodium nitrite.
10. This product contains the following ingredients listed on the Pennsylvania Right-to-Know List of Hazardous Substances: Sodium nitrite (regulated under a synonym).
11. This product contains the following ingredients regulated as a Texas Air Contaminant with Health Effects Screening Level: Turpentine.
12. This product contains the following ingredients listed on the Toxic Substances Control Act Chemical Inventory List: Cobalt oxide, turpentine, bismuth subnitrate, sorbitan monostearate, and sodium nitrate.
13. Pursuant to Section 313. SARA Title III, this product contains the following reportable substances: Cobalt compounds.
14. OSHA Hazard Communication Categories: Irritant, Eye Hazard, Lung Hazard.
15. SARA: Fire - No; Pressure - No; Reactive - No; Acute - Yes; Chronic - Yes.
16. DOT limited quantity exemption applies to shipments of this product. Flammable liquid N.O.S., 3, UN1993, PG III (Turpentine).
17. Judgments as to the suitability of the information herein for purchaser's purposes are necessarily purchaser's responsibility. Therefore, although reasonable care has been taken in the preparation of such information, CoorsTek extends no warranties, makes no representations, and assumes no responsibility as to the accuracy or suitability of such information for application to purchaser's intended purposes or for consequences of its use.

NAIF = No Applicable Information Found
NA = Not Applicable