



SAFETY DATA SHEET
U.S. Department of Labor
Occupational Safety & Health Administration

RoofdX Copper

SECTION 1 - IDENTIFICATION

MANUFACTURER: Andek Corporation
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PRODUCT IDENTIFIER: RoofdX Copper
RECOMMENDED USE: Thermoplastic Rubber Coating

SECTION 2 – HAZARD IDENTIFICATION

Skin: Slightly irritating

Eyes: May cause eye irritation

Inhalation: High vapor concentrations are irritating to the respiratory tract.

Ingestion: **Do Not** ingest. Aspiration during ingestion or vomiting may cause pulmonary injury.

SIGNAL WORD: Warning

HAZARD STATEMENTS:

- Flammable liquid and vapor
- May be harmful if swallowed and enters airways
- Causes mild skin irritation
- Causes eye irritation
- May be harmful if inhaled
- Toxic to aquatic life

PICTOGRAMS:



PRECAUTIONARY STATEMENTS:

Prevention:

- **Do Not** handle until all safety precautions have been read and understood .
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Keep container tightly closed.
- Avoid breathing mist, vapors or spray.
- **Do Not** get in eyes, on skin, or on clothing
- Wash thoroughly after handling
- **Do Not** eat, drink or smoke when using this product.
- Wear protective gloves/protective clothing/eye protection/face protection .
- Use explosion-proof electrical/ventilating/light/equipment.
- Take precautionary measures against static discharge
- Avoid release to the environment

Response:

- **Skin:** Wash with plenty of water
- **Eyes:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do, continue rinsing.
- **Inhalation:** Remove person to fresh air and keep comfortable for breathing.
- **Ingestion:** Rinse mouth. **Do Not** induce vomiting

Storage:

- Store in a well ventilated place. Keep container tightly closed
- Store at temperature between 40°F and 90°F

Disposal:

- Waste disposal should be in accordance with existing federal, state and local environmental control laws.
- Incineration is the preferred method.

SECTION 3 – COMPOSITION

<u>CHEMICAL NAME</u>	<u>CAS #</u>	<u>APPROX %</u>
Barium Sulfate	7727-43-7	7.0
Copper	7440-50-8	18.0
Aluminum Silicate	1332-58-7	0.5
Pentaerythritol tetrakis(3-(3, 5-di-tert-butyl-4-hydroxyphenyl)propionate)	6683-19-8	0.5
Naphtha, Light Aromatic Solvent	64742-95-6	30.0
White Mineral Oil	8042-47-5	2.0
Ethylene-Styrene Copolymer	68648-89-5	21.0
Hydrogenated Hydrocarbon Resin	69430-35-9	21.0

SECTION 4 – FIRST AID MEASURES**Skin:**

- Get medical aid.
- Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing/shoes

Eyes:

- Thoroughly flush the eyes with large amounts of clean low-pressure water for at least 15 minutes, occasionally lifting the upper and lower eyelids.
- If irritation persists, seek medical attention

Inhalation:

- Remove person to fresh air.
- If signs/symptoms continue, get medical attention.
- Give oxygen or artificial respiration as needed.

Ingestion:

- **Do Not** induce vomiting.
- If vomiting does occur, have victim lean forward to prevent aspiration.
- Rinse mouth with water.
- Seek medical attention.
- Never give anything by mouth to an unconscious individual

SECTION 5 – FIRE-FIGHTING MEASURES**Suitable (and unsuitable) extinguishing media:**

- **Small fire:** Use dry chemicals, CO², water spray or alcohol-resistant foam.
- **Large fire:** Use water spray, water fog or alcohol-resistant foam. Cool all affected containers with flooding quantities of water.

Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products):

- Carbon oxides expected to be the primary hazardous combustion product.

Special protective equipment and precautions for firefighters:

- Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
- Keep unopened containers cool by spraying with water.

Hazardous Combustion Products: Carbon dioxide, carbon monoxide, smoke, fumes, and unburned hydrocarbons

Flammable Properties Classification: OSHA/NFPA Class II Combustible Liquid.

Flash point 42 °C (108 °F) - closed cup

Auto ignition temperature 471 °C (880 °F)

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

- **Do Not** inhale vapors, mist or gas.
- Ensure adequate ventilation.
- Remove all sources of ignition.
- Evacuate personnel to safe areas.
- Beware of vapors accumulating to form explosive concentrations.
- Vapors can accumulate in low areas.

Environmental precautions:

- Stop leak.
- Contain spill if possible and safe to do so.
- Prevent product from entering drains.

Methods and materials for containment and cleaning up:

- Absorb with an inert dry material and place in an appropriate waste disposal container.
- Keep disposal containers closed when finished.

SECTION 7 – HANDLING & STORAGE

Precautions for safe handling:

- **Do not** get on skin or in eyes.
- **Do not** inhale vapor or mist.
- Keep away from sources of ignition - No smoking.
- Take measures to prevent the buildup of electrostatic charge.
- Open and handle container with care.
- Metal containers involved in the transfer of this material should be grounded and bonded.

Recommendations on the conditions for safe storage:

- Store in a tightly closed container and keep in a cool, dry, well-ventilated place.
- Keep container away from extreme heat and strong oxidizing agents.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION:

Exposure limits:

CHEMICAL NAME	PEL	TLV
White Mineral Oil	STEL: 10mg/m ³	TWA: 5mg/m ³
Cumene (present <0.001%)	N/A	50ppm (8 hrs)
Copper	1.0 mg/m ³ (dust & mist)	2.0 mg/m ³ (dust & mist)
Crystalline Silica (present <0.001%)	0.1mg/m ³ (dust)	0.1mg/m ³ (dust)

Engineering controls:

- Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of mists and/or vapors below the recommended exposure limits (see below).
- An eye wash station and safety shower should be located near the work-station.

Individual protection measures:

- Personal protective equipment should be selected based upon the conditions under which this material is used.
- A hazard assessment of the work area for PPE requirements should be conducted by a qualified professional pursuant to OSHA regulations.

Inhalation protection:

- The need for respiratory protection is not anticipated under normal use conditions and with adequate ventilation.
- If elevated airborne concentrations above applicable workplace exposure levels are anticipated, a NIOSH-approved organic vapor respirator equipped with a dust/mist prefilter should be used.
- Protection factors vary depending upon the type of respirator used. Respirators should be used in accordance with OSHA requirements (29 CFR 1910.134).

Eye protection:

- Safety glasses equipped with side shields are recommended as minimum protection in industrial settings.
- Wear goggles if splashing or spraying is anticipated.
- Wear goggles and face shield if material is heated above 125°F (51°C).
- Have suitable eye wash water available.

Skin and body protections:

- None required for incidental contact.
- Use gloves constructed of chemical resistant materials such as heavy nitrile rubber if frequent or prolonged contact is expected.
- Use heat-protective gloves when handling product at elevated temperatures.
- Use clean protective clothing if splashing or spraying conditions are present.
- Protective clothing may include long-sleeve outer garment, apron, or lab coat.
- If significant contact occurs, remove oil-contaminated clothing as soon as possible and promptly shower.
- Launder contaminated clothing before reuse or discard.
- Wear heat protective boots and protective clothing when handling material at elevated temperatures.

Other hygienic practices and protective equipment:

- Use good personal hygiene practices.
- Wash hands and other exposed skin areas with plenty of mild soap and water before eating, drinking, smoking, use of toilet facilities, or leaving work.
- **Do Not** use gasoline, kerosene, solvents or harsh abrasives as skin cleaners.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES:

Appearance: Semi-Viscous liquid

Physical state: Liquid

Color: Metallic Copper

Odor: Mildly aromatic hydrocarbon odor

Odor threshold: 0.07ppm

pH: None established

Melting point/freezing point: -60°C

Initial boiling point and boiling range: 149°C to 182°C

Flash point: 108°F (42°C)

Evaporation rate: 0.2 (butyl acetate = 1)

Flammability: Flammable

Upper/lower flammability or explosive limits: (by volume) 5.7% / 0.8%

Vapor pressure: 0.8kPa (6mmHg)@20°C (68°F)

Vapor density: 4 (air = 1)

Relative density: 1.20kg/l

Solubility: Insoluble

Partition coefficient: n-octanol/water: None established

Auto-ignition temperature: 471°C (880°F)

Decomposition temperature: None established

Viscosity: 8,000 centipoise @20°C

SECTION 10 – STABILITY AND REACTIVITY

Hazardous Polymerization: Not expected to occur.

Chemical stability: Stable.

Incompatibility: Strong oxidizers

Hazardous decomposition products: No additional hazardous decomposition products were identified other than the combustion products identified in Section 5 of this MSDS.

Conditions to avoid: Keep away from extreme heat, sparks, open flame, and strongly oxidizing conditions.

SECTION 11 – TOXICOLOGICAL INFORMATION

The following information regarding health hazards is based upon third-party research studies.

Effects of Acute Exposure:

Inhalation: Inhalation of dust or mist can cause irritation of the eyes, nose, throat, and lungs.

Eye Contact: Like any foreign body, particles can cause mechanical irritation.

Skin Contact: This material can cause irritation if not promptly washed from the skin. This product is not expected to be absorbed through intact skin.

Ingestion: Small amounts of this product aspirated into the respiratory system during ingestion or vomiting may cause mild to severe pulmonary injury.

Numerical measures of toxicity:

CHEMICAL NAME	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 (rat)
Copper	0.16 mg/kg (human)	273 mg/kg (human)	18.2 mg/m ³ (human)
Naptha, light aromatic solvent	8,400 mg/kg	3,160 mg/kg	2,900 ppm
White mineral oil	5,000 mg/kg	2,000 mg/kg	N/A
Pentaerythritol tetrakis	5,000 mg/kg	3,160 mg/kg	N/A

Lifetime mouse skin painting studies indicated that white mineral oils are not mutagenic or carcinogenic. Mineral oil mists derived from highly refined oils are reported to have low acute and sub-acute toxicities in animals. Effects from single and short-term repeated exposures to high concentrations of mineral oil mists well above applicable workplace exposure levels include lung inflammatory reaction, lipoid granuloma formation and lipoid pneumonia. In acute and sub-acute studies involving exposures to lower concentrations of mineral oil mists at or near current work place exposure levels produced no significant toxicological effects. In long term studies (up to two years) no carcinogenic effects have been reported in any animal species tested.

SECTION 12 – ECOLOGICAL INFORMATION

Data from toxicity test (aquatic and/or terrestrial organism where available): 5 columns

CHEMICAL NAME	Algae/Aquatic Plants (EC50)	Fish (LC50)	Toxicity to Microorganism	Crustacea (Aquatic Invertebrates) EC50
Copper	1300 mg/ltr 96 hr. (Pseudokirchneriella subcapitata)	75 mg/ltr 96 hr. (Danio rerio/Zebra Danio)	N/A	42mg/ltr 48 hr. (daphnia similis/Water flea)
Naptha, light aromatic solvent	<1 mg/ltr (Skeletonema costatum)	41 mg/ltr 96 hr. (Pimephales promelas (fathead minnow))	N/A	0.95 mg/ltr 48 hr. (daphnia magna)
Pentaerythritol tetrakis	>100 mg/ltr 72 hr. (Scenedesmus sp)	>100 mg/ltr 24 hr. (Zebra fish)	IC50 >100 mg/ltr 3 hr. (Sewage sludge)	> 86 mg/ltr 24 hr. (Daphnia magna)

Ecotoxicity:

Analysis for ecological effects has not been conducted on this product. However, if spilled, this product and any contaminated soil or water may be harmful to human, animal, and aquatic life. Also, the coating action associated with petroleum and petroleum products can be harmful or fatal to aquatic life and waterfowl. The copper content is mainly encapsulated by the hydrocarbon resins significantly reducing its rate of speciation.

Environmental Fate:

- **Biodegradability:** Inherently biodegradable in aerobic conditions. Parameters like pH, alkalinity and (H₂O) hardness have significant effects on copper speciation.
- **Partition Coefficient (log K_{ow}):** >6 (based on similar materials)
- **Photodegradation:** Based on similar materials, this product will have little or no tendency to partition to air. Hydrocarbons from this product which do partition to air are expected to rapidly photodegrade.
- **Stability in Water:** Not readily susceptible to hydrolysis under aquatic conditions.
- **Distribution:** Principally to soil and sediment. Petroleum-based (mineral) lubricating oils normally will float on water. In stagnant or slow-flowing waterways, an oil layer can cover a large surface area. As a result, this oil layer might limit or eliminate natural atmospheric oxygen transport into the water. With time, if not removed, oxygen depletion in the waterway may be sufficient to cause a fish kill or create an anaerobic environment.

SECTION 13 – DISPOSAL CONSIDERATIONS

Waste Disposal Method:

Waste disposal should be in accordance with existing federal, state and local environmental control laws. Incineration is the preferred method.

Empty Container Precautions:

Empty containers retain product residue; observe all precautions for product. Do not heat or cut empty container with electric or gas torch because highly toxic vapors and gases are formed. **Do not** reuse without thorough commercial cleaning and reconditioning. If container is to be disposed, ensure all product residues are removed prior to disposal.

SECTION 14 – TRANSPORT INFORMATION

UN #	1263
UN PROPER SHIPPING NAME:	Paint
HAZARD CLASS:	3
PACKING GROUP:	III
ENVIRONMENTAL HAZARDS:	3077 Environmentally hazardous substance
GUIDANCE ON TRANSPORT IN BULK:	N/A

Transport labels required: Flammable liquid, Fish and Tree (In the U.S., this material may be re-classified as a combustible liquid and is not regulated in containers less than 119 gallons via surface transportation.)

SECTION 15 – REGULATORY INFORMATION

US Federal Regulation:

SARA 311/312 Hazard Categories

CHEMICAL NAME	CWA reportable quantities	CWA Toxic Pollutants	CWA Priority Pollutants	CWA Hazardous Substances	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity RQ
1,2,4-Trimethylbenzene	N/A	Listed	N/A	Chronic Health Hazard	Acute	N/A	N/A
Xylene	N/A	Listed	N/A	Chronic Health Hazard	Acute	N/A	N/A
Cumene	5000 lbs	Listed	N/A	Chronic Health Hazard	Acute	Required	5000 lbs

US State Right to Know Regulations: New Jersey, Massachusetts, Pennsylvania, Rhode Island

CHEMICAL NAME	CAS #
1,2,4-Trimethylbenzene	95-63-6
Cumene	98-82-8
Copper	7440-50-8

CA Prop 65

CHEMICAL NAME	CAS#	
Cumene	98-82-8	Less than 0.001% of the total volume

Canada

CHEMICAL NAME	CAS#
Copper	7440-50-8

SECTION 16 – OTHER INFORMATION (HMIS RATING)

Health	1
Flammability	2
Physical Hazard	1
Personal Protection	G

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