



PURITAN PRODUCTS

Custom Formulated and Specialty Chemicals

2290 Avenue A, Bethlehem, PA 18017

Effective Date: 05/09/2007

NON-EMERGENCY TELEPHONE
610-866-4225

24-HOUR CHEMTREC EMERGENCY TELEPHONE
800-424-9300

Material Safety Data Sheet

COBALT 6% NAPHTHENATE

1. Product Identification

Synonyms: N/A

CAS No.: N/A

Molecular Weight: N/A

Chemical Formula: N/A

Product Codes: 4559

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
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Mixed Cobalt Carboxylates*	See below	55%	Yes
Mineral Spirits	8052-41-3	43%	Yes
Diethylene Glycol Methyl Ether	111-77-3	2%	Yes

*Mixed Cobalt Carboxylates

Cobalt Neodecanoate	27253-31-2	Inc. Above	Yes
Cobalt Naphthenate	61789-51-3	Inc. Above	Yes

3. Hazards Identification

Emergency Overview

RED-PURPLE LIQUID WITH MILD SOLVENT ODOR. COMBUSTIBLE LIQUID. KEEP AWAY FROM HEAT AND ALL SOURCES OF IGNITION. MAY CAUSE SENSITIZATION BY SKIN CONTACT WHICH MAY PRODUCE ALLERGIC CONTACT DERMATITIS. MAY CAUSE SENSITIZATION BY INHALATION WHICH MAY PRODUCE OCCUPATIONAL ASTHMA. MAY CAUSE EYE, SKIN AND RESPIRATORY TRACT IRRITATION. MAY BE HARMFUL IF INHALED OR SWALLOWED. ASPIRATION HAZARD.

Potential Health Effects

Inhalation:

Although no data exists for this product, Cobalt metal powder is a known allergen that produces characteristic symptoms of asthma, such as wheezing, dry cough, and labored breathing. Usually the asthma symptoms appear 4-6 hours after exposure and often worsen again later in the same day. Even later asthma reactions to inhaled cobalt may occur up to 48 hours after exposure. Improvement typically occurs when cobalt exposure ceases, e.g. weekends, vacations. Other cobalt-containing compounds such as hard metal dust, but not cobalt powder itself, are associated with subacute fibrosis alveolitis and chronic diffuse interstitial pulmonary fibrosis. Causes mild respiratory irritation. Symptoms are more typically seen at air concentrations exceeding the recommended exposure limits. Symptoms of exposure may include irritation (nose, throat, respiratory tract) and central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness, possible death. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage (sometimes referred to as Solvent or Painter's syndrome).

Ingestion:

May cause headache, dizziness, nausea, vomiting, gastrointestinal irritation and central nervous system depression. Swallowing small amounts during handling is not likely to cause harmful effects; swallowing large amounts may be harmful. Symptoms may include gastrointestinal irritation (nausea, vomiting, diarrhea), central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness). This material can enter the lungs during swallowing or vomiting and cause lung inflammation and/or damage. Small amounts of this product aspirated into the respiratory system during ingestion or vomiting may cause mild to severe pulmonary injury, possibly progressing to death.

Skin Contact:

Based on data for Cobalt metal powder, may cause allergic contact dermatitis if there is prior sensitization. Most rashes associated with cobalt occur on the hands and appear within the first year of occupational exposure to cobalt. Exposure may cause skin irritation. Prolonged or repeated exposure may dry the skin. Symptoms may include redness, burning, drying and cracking, and skin damage. Pre-existing skin disorders may be aggravated by exposure to this material. May cause skin defatting with prolonged exposure.

Eye Contact:

May cause irritation.

4. First Aid Measures

Inhalation:

Move the exposed person to fresh air at once. If indicated, a qualified pre-hospital medical provider

(such as a first responder or EMT) may give oxygen. Contact a physician.

Ingestion:

Aspiration hazard. Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. If the victim is drowsy or unconscious, place on left side with head down,. If possible, do not leave victim unattended. Seek immediate medical attention.

Skin Contact:

Wash thoroughly with soap and plenty of clean water. If irritation occurs, contact a physician.

Eye Contact:

Flush immediately with large amounts of water and continue flushing for 15 minutes or until irritation subsides, whichever is longer.

Note to Physician:

Toxic concentrations of cobalt in urine and blood are not well defined. In the general population, the 95th percentile for cobalt concentration was 8.3 ug/l in urine (National Health and Nutrition Examination Survey III). Chelation treatments, for example, calcium disodium edetate or dimercaprol, are controversial. Contact a poison control center for current recommendations. Individuals with polymorphism in the HLA-DP gene (presence of glutamate 69 in the beta chain) may be more susceptible to cobalt toxicity.

Medical Conditions Aggravated:

Conditions aggravated by exposure may include skin disorders and respiratory (asthma-like) disorders

5. Fire Fighting Measures

Fire:

Flash point (°F): 100, minimum

Explosion:

Explosion Limits in Air-Lower (%) 0.7 for mineral spirits

Explosion Limits in Air-Upper (%) 8.9 for mineral spirits

Autoignition Temp (° F) 445 for mineral spirits

Unusual Fire and Explosion Hazards:

Combustible liquid. Forms combustible mixtures with air at or above the flash point. This product can accumulate static charges which can cause fire or explosion. This liquid is volatile and gives off invisible vapors. Either the liquid or vapor may settle in low areas or travel some distance along the ground or surface to ignition sources where they may ignite or explode and flash back

Fire Extinguishing Media:

Dry chemical, carbon dioxide, Halon, or foam. Water spray is recommended to cool or protect exposed materials or structures. Water may be ineffective for extinguishment, unless used under favorable conditions by experienced fire fighters. Halon may decompose into toxic materials. Carbon dioxide can displace oxygen. Use caution when applying Halon or carbon dioxide in confined spaces. Avoid spraying water directly into storage containers due to danger of boilover.

Special Information:

During fire, a water spray can scatter flames and should be used by experienced firefighters. Firefighters should wear self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode when fighting fires. In addition, wear appropriate protective equipment as conditions warrant. Isolate damage area, keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Move undamaged containers from danger area if it can be done with minimal risk. Water spray may be useful in minimizing or dispersing vapors. Cool

equipment exposed to fire with water, if it can be done with minimal risk. Avoid spreading burning liquid with water used for cooling purposes.

6. Accidental Release Measures

Eliminate all ignition sources. Spilled material may be absorbed into an appropriate absorbent material. Prevent spilled material from entering sewers, storm drains, other authorized treatment drainage systems, and natural waterways. Stop spill/release if it can be done with minimal risk. Stay upwind and away from spill/release. Isolate danger and keep unauthorized personnel out. Use non-sparking tools and explosion-proof equipment. Recover by pumping (use an explosion-proof or hand pump) or with a suitable absorbent. Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.

Additional Action if Material is Spilled onto Surface Water Bodies:

Warn occupants and shipping in surrounding and downwind areas of fire and explosion hazard and request all to stay clear. Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.

7. Handling and Storage

Cobalt carboxylates may cause the ignition of rags or paper goods or other oxidizable materials. Keep container closed. Handle and open containers with care. Open container slowly to relieve any pressure. Bond and ground all equipment when transferring from one vessel to another. The use of explosion-proof equipment is recommended and may be required. Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. Material will accumulate static charges which may cause an electrical spark (ignition source). Use proper grounding procedures. Do NOT pressurize, cut, heat, or weld containers. Empty product containers may contain product residue. Do NOT reuse empty containers without commercial cleaning or reconditioning. "Empty" drums should be completely drained and properly bunged. All other containers should be disposed of in an environmentally safe manner and in accordance with government regulations. Do not transfer to any unlabeled container. Wash exposed skin thoroughly after handling. Do not wear contaminated clothing or shoes. Use good personal hygiene practice. For industrial use only

Warning: Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperatures and pressures, or sudden ingress of air into vacuum equipment, may result in ignitions without the presence of obvious ignition sources. Published "autoignition" temperature values cannot be treated as safe operating temperatures in chemical processes without analysis of the actual process conditions. Any use of this product in elevated temperature processes should be thoroughly evaluated to establish and maintain safe operating conditions.

Storage:

Keep container(s) tightly closed. Use and store this material in a cool, dry, well-ventilated area away from heat, direct sunlight, hot metal surfaces, and all sources of ignition. Post "NO SMOKING OR OPEN FLAME." Store only in approved containers. Keep away from any incompatible material. Protect container(s) against physical damage. Outdoor or detached storage is preferred. Indoor storage should meet OSHA standards and appropriate fire codes.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

OSHA Permissible Exposure Limit (PEL):

Cobalt Neodecanoate.....0.1 mg/m³ (TWA), [For metal dust and fume, as Co], STEL not established

Cobalt Naphthenate.....0.1 mg/m³ (TWA), STEL not established

Mineral Spirits.....500 ppm [The manufacturer recommended exposure limit for Mineral Spirits is 100 ppm]

Diethylene Glycol Methyl Ether.....Not Established

ACGIH Threshold Limit Value (TLV):

Cobalt Neodecanoate.....Not Established

Cobalt Naphthenate.....Not Established

Mineral Spirits.....100 ppm, STEL not established

Diethylene Glycol Methyl Ether.....Not Established

If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional ventilation or exhaust systems may be required. Where explosive mixtures may be present, electrical systems safe for such locations must be used.

Ventilation System:

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV(S).

Personal Respirators (NIOSH Approved):

When exposures are not adequately controlled, use respirator approved for protection from organic vapors. If workplace exposure limit(s) of product or any component is exceeded, a NIOSH approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH respirators (negative pressure type) under specified conditions (See your industrial hygienist). Engineering or administrative controls should be implemented to reduce exposure

Skin Protection:

Appropriate disposable gloves are acceptable. Resistant gloves such as Nitrile rubber can be worn. Consult your safety equipment supplier.

Eye Protection:

Wear safety glasses or goggles to protect against exposure. Chemical splash goggles in compliance with OSHA regulations are advised; however, OSHA regulations also permit other types of safety glasses. Consult your safety representative.

Other Protective Equipment:

Eye wash and quick-drench shower facilities. Impervious clothing and boots are recommended. Thoroughly clean shoes and wash contaminated clothing before reuse.

9. Physical and Chemical Properties

Appearance:

Red-Purple

Physical State

Liquid

Specific Gravity @ 25°C:

0.93

% Volatiles by volume @ 21C (70F):

57

% Volatiles by Weight

47

Boiling Range/Point:

313-390°F

Melting Point:

Unknown

Freezing Point

Unknown

Vapor Density (Air=1):

Heavier than air

Vapor Pressure (mm Hg):

2 mm Hg @ 68°F for mineral spirits

Evaporation Rate (BuAc=1):

Slower than ether

Weight per gallon

7.8 lbs.

10. Stability and Reactivity

Stability:

Stable.

Hazardous Thermal Decomposition/Combustion Products:

Carbon dioxide. Carbon monoxide. Various hydrocarbons. Cobalt oxide.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Contact with oxidizing agents. Reducing agents.

Conditions to Avoid:

Avoid heat and any source of ignition.

11. Toxicological Information

There is not specific data for this product. The following information exists for Cobalt powder: Cobalt has not been shown to be carcinogenic to humans. The National Toxicological Program (NTP) does not recognize cobalt as an animal or human carcinogen. The International Agency for Research on Cancer (IARC) classifies cobalt as “possibly carcinogenic” to humans (Class 2B) based on animal studies. Refer to the IARC website (www.iarc.fr) for the most recent information. ACGIH has given Cobalt and Cobalt Inorganic Compounds a rating of A3, animal carcinogen. They state that available epidemiologic studies do not confirm an increased risk of cancer to exposed humans. Workers with occupational asthma arising from cobalt powder are sensitized as may be demonstrated by a positive bronchoprovocation challenge test with cobalt chloride. However, the test is not widely available and should only be performed by physicians experienced in the procedure. This latter test is not widely available. Cobalt-related asthma may include early, late and dual reactions. The late reactions may appear up to 48 hours after exposure. Improvement typically occurs with cessation of

exposure, such as weekends and vacations. Patch test and intradermal skin tests do not discriminate patients with cobalt-related asthma from controls in the general population. Cobalt-induced allergic contact dermatitis is characterized by erythematous papules occurring commonly on the hands. The prevalence of this condition in the workplace may be 10-15%. Most cobalt-related rashes begin in the first year of employment where cobalt is used. Risk factors include prior nickel sensitization and irritant dermatitis. 25% of nickel-sensitive individuals develop cobalt allergy compared with 5% of the general population. Sensitization to nickel and cobalt result from co-exposure rather than crossreactivity. The diagnosis of cobalt sensitivity may be made by patch testing. However, the diagnosis of cobalt sensitivity is complicated by the fact that nickel contamination of cobalt patch tests may produce false positive skin tests for cobalt in patients who are highly sensitive to nickel.

12. Ecological Information

Environmental Fate:

No data at this time.

Environmental Toxicity:

No data at this time.

13. Disposal Considerations

As local regulations may vary, all waste must be disposed/recycled/reclaimed in accordance with federal, state, and local environmental control regulations. This is a RCRA hazardous waste if discarded in the produced form due to ignitibility. Empty containers must be handled with care due to material residue. Empty containers should be completely drained, properly bunged and shipped to a drum reconditioner.

14. Transport Information

Domestic (Land, D.O.T.)

Proper Shipping Name: Flammable liquid, n.o.s.

Hazard Class: 3

UN/NA: UN1993

Packing Group: III

Information reported for product/size: 120 gallons

15. Regulatory Information

TSCA Status:

All components of this product are the US TSCA Inventory.

TSCA 12(b) Export Notification:

No components of this product are subject to TSCA 12(b) export notification requirements.

California Proposition 65:

This material may contain the following chemicals which are known to the State of California to cause cancer or birth defects and are subject to the requirements of California Proposition 65:

Toluene (108-88-3) – Birth Defect

Benzene (71-43-2) – Cancer, Birth Defect

Clean Air Act S112 Hazardous Air Pollutants:

Cobalt Compounds. Glycol Ethers. Benzene (71-43-2). Toluene (108-88-3)

SARA 302 Extremely Hazardous Substances List:

This product does not contain greater than 1% of any chemical substance on the SARA Extremely Hazardous Substance List. **SARA (311, 312) HAZARD CLASS:**

Acute health hazard. Chronic health hazard. Fire hazard.

SARA Section 313 Toxic Chemicals:

Cobalt Compounds 55%

Glycol Ethers 2%

Australian Inventory Chemical Substances:

All components are listed on the Australian Core Inventory of Chemical Substances (ACOIN).

Canadian Inventory:

All components are on the Domestic Substance List (DSL).

Einecs Regulations:

All components are on the European Inventory of Existing Commercial Chemical Substances (EINECS).

Japan:

All components are listed on the Japanese Existing and New Chemical Substances (ENCS).

Korean Chemical Inventory:

All components are on the Korean List of Existing Chemical Substances.

Philippine Inventory:

All components are listed on the Philippines Inventory of Chemicals and Chemical Substances (PICCS).

Chinese Inventory:

All components are listed on the Chinese Inventory of Existing Chemical Substances.

Japanese Pollutant Release Transfer Register (PRTR):

Cobalt Compounds are Class 1 regulated substances, number 100, as Cobalt Compounds. The annual threshold quantity is 1.0 tons.

16. Other Information

NFPA Ratings: Health: **1*** Flammability: **2** Reactivity: **0** Personal Protection: **B**

*Chronic health hazard

Label Hazard Warning:

MAY CAUSE SENSITIZATION BY SKIN CONTACT WHICH MAY PRODUCE ALLERGIC CONTACT DERMATITIS. MAY CAUSE SENSITIZATION BY INHALATION WHICH MAY PRODUCE OCCUPATIONAL ASTHMA. MAY CAUSE EYE, SKIN, OR RESPIRATORY IRRITATION. MAY BE HARMFUL IF INHALED OR SWALLOWED.

Label Precautions:

Label First Aid:**TARGET ORGANS:**

May cause sensitization by skin contact which may produce allergic contact dermatitis. May cause sensitization by inhalation which may produce occupational asthma. May cause eye, skin, or respiratory irritation. May be harmful if inhaled or swallowed.

EYES:

Flush immediately with large amounts of water and continue flushing for 15 minutes or until irritation subsides, whichever is longer.

SKIN:

Wash thoroughly with soap and plenty of clean water. If irritation occurs, contact a physician.

INHALATION:

Move the exposed person to fresh air at once. If indicated, a qualified pre-hospital medical provider (such as a first responder or EMT) may give oxygen. Contact a physician.

INGESTION:

Aspiration hazard. Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. If the victim is drowsy or unconscious, place on left side with head down. If possible, do not leave victim unattended. Seek immediate medical attention.

HANDLING:

Cobalt carboxylates may cause the ignition of rags or paper goods or other oxidizable materials. Keep container closed. Handle and open containers with care. Bond and ground all equipment when transferring from one vessel to another. Material will accumulate static charges which may cause an electrical spark (ignition source). Use proper grounding procedures. Do NOT pressurize, cut, heat, or weld containers. Empty product containers may contain product residue. Do NOT reuse empty containers without commercial cleaning or reconditioning. All other containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. Use good personal hygiene practice.

STORAGE:

Keep container(s) tightly closed. Use and store this material in a cool, dry, well-ventilated area away from heat, direct sunlight, hot metal surfaces, and all sources of ignition. Post "NO SMOKING OR OPEN FLAME." Store only in approved containers. Keep away from any incompatible material. Protect container(s) against physical damage. Outdoor or detached storage is preferred. Indoor storage should meet OSHA standards and appropriate fire codes.

ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Eliminate all ignition sources. Spilled material may be absorbed into an appropriate absorbent material. Prevent spilled material from entering sewers, storm drains, other authorized treatment drainage systems, and natural waterways. Stop spill/release if it can be done with minimal risk. Stay upwind and away from spill/release. Isolate danger and keep unauthorized personnel out. Use non-sparking tools and explosion-proof equipment. Recover by pumping (use an explosion-proof or hand pump) or with a suitable absorbent. Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.

EXTINGUISHING MEDIA:

Dry chemical, carbon dioxide, Halon, or foam. Water spray is recommended to cool or protect exposed materials or structures. Water may be ineffective for extinguishment, unless used under favorable conditions by experienced fire fighters. Halon may decompose into toxic materials. Carbon dioxide can displace oxygen. Use caution when applying Halon or carbon dioxide in confined spaces. Avoid spraying water directly into storage containers due to danger of boilover.

Disclaimer:

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