



OMG BELLEVILLE LIMITED
 30 DUSSEK STREET
 BELLEVILLE, ONTARIO
 CANADA K8N 5A5

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 12% COBALT DUSYN
PRODUCT CODE: B00330

MANUFACTURING LOCATION:

OMG BELLEVILLE LIMITED
 30 DUSSEK STREET
 BELLEVILLE, ONTARIO, CANADA, K8N 5A5
PREPARED BY: Technical Department
PHONE: 613-966-8881

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IN CASE OF EMERGENCY CONTACT:

OMG Belleville (613) 966-8881
 CANUTEC: (613) 996-6666 CHEMTREC 1-800-424-9300

CHEMICAL FAMILY/USE: Ink/Paint Drier

HMIS:

HEALTH: 1*
 FLAMMABILITY: 2
 REACTIVITY: 0
 PERSONAL PROTECTION: B

WHMIS RATING: B3, D2A

*Chronic health hazard

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component/CAS number	Percent	ACGIH TLV:	ACGIH Short Term Exposure Limit (STEL) value:	OSHA PEL:	OSHA Short Term Exposure Limit (STEL) value:	Units that the TWAs and STELs for ACGIH and OSHA are in:
Mixed Cobalt Carboxylates MIXTURE	66-76	See Below	See Below	See Below	See Below	
Mineral Spirits 64742-88-7	20-30	100	NE	500*	NE	ppm
Dipropylene Glycol Monomethyl Ether 34590-94-8		100 (skn)	150 (skn)	100 (skn)	NE	ppm

CARBOXYLATE MIXTURE COMPONENTS

Component/CAS number	Percent	ACGIH TLV:	ACGIH Short Term Exposure Limit (STEL) value:	OSHA PEL:	OSHA Short Term Exposure Limit (STEL) value:	Units that the TWAs and STELs for ACGIH and OSHA are in:
Cobalt 2-Ethylhexanoate 136-52-7	Inc. Above	NE	NE	0.1+	NE	mg/m3
Cobalt Neodecanoate 27253-31-2	Inc. Above	NE	NE	0.1+	NE	mg/m3

*The Manufacturer Recommended Exposure Limit for Mineral Spirits (64742-88-7) is 100 PPM.

+For metal dust and fume, as Co

TOXICOLOGICAL INFORMATION FOR COMPONENTS:

Mineral Spirits

LD₅₀ Oral (Rat)- >6,240 mg/kg

LD₅₀ Dermal (Rabbit)- >3,120 mg/kg

LC₅₀ Inhalation (Rat)- 1,400 ppm 4 hours

Dipropylene Glycol Methyl Ether

LD₅₀ Oral (Rat)- 5,135 mg/kg

LD₅₀ Dermal (Rabbit)- 9,500 mg/kg

Cobalt 2-Ethylhexanoate

LD₅₀ Oral (Rat)- 3,900 mg/kg (From Similar Type Material)

Cobalt Neodecanoate

LD₅₀ Oral (Rat)- 3,900 mg/kg (From Similar Type Material)

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

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 if swallowed. Can enter lungs and cause damage.

EYE CONTACT:

May cause eye irritation.

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.

SKIN ABSORPTION:

Unknown

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). Intentional misuse by deliberately concentrating and inhaling this material may be harmful or fatal.

INGESTION:

OMG Belleville Limited

12% COBALT DUSYN B00330

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.

4. FIRST AID MEASURES

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.

MEDICAL CONDITIONS AGGRAVATED:

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

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.

5. FIRE FIGHTING MEASURES

FLASH POINT:48°C (ASTM D93)

OSHA FLAMMABILITY CLASSIFICATION:

Combustible Liquid-Class II

CONDITIONS OF FLAMMABILITY:

Sparks, open flames and all other sources of ignition. At elevated temperatures, vapour may form an explosive mixture with air.

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. Product will float on the surface of water and may be reignited.

SPECIAL FIREFIGHTING PROCEDURES:

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.

EXPLOSION LIMITS IN AIR - LOWER (%)0.7 for mineral spirits

EXPLOSION LIMITS IN AIR - UPPER (%)8.9 for mineral spirits

AUTOIGNITION TEMP229°C 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.

EXPLOSION DATA- SENSITIVITY TO:

1. Mechanical Impact:.....Stable

2. Static Discharge:.....See "Unusual Fire and Explosion Hazards" above.

HAZARDOUS THERMAL DECOMPOSITION/COMBUSTION PRODUCTS:

Carbon dioxide. Carbon monoxide. Various hydrocarbons. Toxic fumes of cobalt oxide.

6. ACCIDENTAL RELEASE MEASURES

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.

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

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. 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

EYE AND FACE 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. 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.

PROTECTIVE GLOVES:

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

EYE AND FACE 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. 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.

VENTILATION:

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Range/Point	156-199°C for mineral spirits
Vapour Pressure	2mm Hg @ 20°C for mineral spirits
Vapour Density (AIR=1)	Heavier than air
Freezing Point	Unknown
Melting Point	Unknown
% Volatile by Weight	34
% Volatile by Volume	Not determined
Evaporation Rate (Butyl Acetate=1)	Slower than ether.
pH	Unknown
Coefficient of Water/Oil Distribution	Unknown
Physical State, Appearance, Odour	Red purple liquid. Hydrocarbon odour.
Solubility in Water	Unknown
Specific Gravity @ 25°C	1.035
Weight per gallon	8.62 lbs/US gallon
Odour Threshold	Unknown

10. STABILITY AND REACTIVITY

STABILITY:

Stable.

HAZARDOUS POLYMERIZATION:

Will not occur.

HAZARDOUS THERMAL DECOMPOSITION/COMBUSTION PRODUCTS:

Carbon dioxide. Carbon monoxide. Various hydrocarbons. Toxic fumes of cobalt oxide.

INCOMPATIBILITY (MATERIALS TO AVOID):

Contact with oxidizing agents. Reducing agents.

CONDITIONS TO AVOID:

Avoid heat and any source of ignition.

11. TOXICOLOGICAL INFORMATION

TOXICITY DATA:

There is no 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 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 in 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, this 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 reaction 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 cross-reactivity. 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.

TERATOGENICITY AND EMBRYOTOXICITY:

Unknown.

CARCINOGENICITY:

IARC has stated that there is sufficient evidence for the carcinogenicity of cobalt metal powder in experimental animals. On the basis of animal evidence from experiments not regarded as relevant to human exposure, IARC has classified cobalt as 2B, possible carcinogen for humans. ACGIH has given Cobalt a rating of A3, animal carcinogen. They state that available epidemiological studies do not confirm an increased risk of cancer in exposed humans.

REPRODUCTIVE TOXICITY:

Unknown.

MUTAGENICITY:

Unknown.

TOXICOLOGICALLY SYNERGISTIC PRODUCT(S):

Unknown.

IRRITANCY OF MATERIAL:

Potentially mild skin and eye irritant. See section 3.

SENSITIZATION TO MATERIAL:

May cause sensitization by skin contact and by inhalation. See section 3.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION:

No data at this time.

CHEMICAL FATE INFORMATION:

No data at this time.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: This product 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. As local regulations may vary, all waste must be disposed/recycled/reclaimed in accordance with federal, provincial/state, and local environmental control regulations.

14. TRANSPORT INFORMATION

TDG: Paint Related Materials, 3, UN1263, III
EXCEPTION: TDG Regulations, Part II, 1.33 Class 3, Flammable Liquids, General Exemption: This material can be shipped as non-hazardous material if the container capacity is 450 L or less.

DOT: Paint Related Materials, 3, UN1263, III
AIR FREIGHT TRANSPORTATION: Paint Related Materials, 3, UN1263, III

OCEAN TRANSPORTATION: Paint Related Materials, 3.3, UN1263, III

15. REGULATORY INFORMATION

TSCA STATUS:
All components of this product are on the US TSCA Inventory.

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:
 Benzene (71-43-2) Cancer, Birth Defect
 Toluene (108-88-3) 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 1.0% 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 66-76%

Glycol Ethers 1-5%

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.

16. OTHER INFORMATION

The following has been revised since the last issue of this MSDS:

First issue in this format.

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES:

The information in this document is believed to be correct as of the date issued. However, no warranty of merchantability, fitness for any particular purpose, or any other warranty is expressed or is to be implied regarding the accuracy or completeness of this information, the results to be obtained from the use of this information or the product, the safety of this product, or the hazards related to its use. This information and product are furnished on the condition that the person receiving them shall make his own determination as to the suitability of the product for his particular purpose and on the condition that he assume the risk of his use thereof.