



OMG AMERICAS, INC.  
 127 Public Square  
 1500 Key Tower  
 Cleveland, Ohio 44114

MATERIAL SAFETY DATA SHEET

**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

**PRODUCT NAME:** COBALT OXIDE 71-72  
**PRODUCT CODE:** 00095

**MANUFACTURING LOCATION:**

OMG AMERICAS, INC.  
 TWO MILE RUN ROAD  
 VENANGO COUNTY, FRANKLIN, PA 16323

**DATE REVISED:** 05/27/2005  
**DATE PRINTED:** 05/27/2005

**IN CASE OF EMERGENCY CONTACT:**

8:00 a.m. to 5:00 p.m. (EST): 440-899-2950  
 After 5:00 p.m.(EST): 814-432-2125

**CHEMICAL FAMILY/USE:** Inorganic salt  
**CHEMICAL FORMULA:** NA

**HMIS: HEALTH:** 1\*  
**FLAMMABILITY:** 0  
**REACTIVITY:** 0  
**PERSONAL PROTECTION:** E

\*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:
Cobalt Oxide 1308-06-1	>99.9	0.02	NE	0.1+	NE	mg/m3
Nickel Oxide 1313-99-1	<0.1	0.2**	NE	1	NE	mg/m3

+For metal dust and fume, as Co

\*\*For Nickel, Insoluble compounds, as Ni

**3. HAZARDS IDENTIFICATION**

**EMERGENCY OVERVIEW:**

Black powder. 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 and respiratory irritation.

**EYE CONTACT:**

May cause eye irritation.

**SKIN CONTACT:**

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.

**INGESTION:**

OMG Americas, Inc.

COBALT OXIDE 71-72 00095

May be harmful if swallowed.

**INHALATION:**

Cobalt 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.

**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:**

Remove victim from contaminated area. Wash immediately and thoroughly with soap or mild detergent and water. Remove and isolate contaminated clothing, jewelry, and shoes. Gently brush away excess solid contaminant. Consult a physician if irritation persists.

**INHALATION:**

Remove from exposure. Provide ventilation assistance and oxygen as indicated. Physicians should administer usual asthma medications for acute attacks.

**INGESTION:**

Give large amounts of water to drink if person is completely conscious. Get medical attention as a precaution.

**MEDICAL CONDITIONS AGGRAVATED:**

Individuals already sensitized to cobalt are at greater risk for asthma attacks. Risk factors for severe eczema include not only prior cobalt sensitization, but also prior nickel sensitization and irritant dermatitis. The sensitization to cobalt and nickel results from co-exposure rather than cross-reactivity.

**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 (° F)** .....Not Applicable

**OSHA FLAMMABILITY CLASSIFICATION:**

Not Applicable.

**EXTINGUISHING MEDIA:**

Dry chemical, carbon dioxide (CO2), water.

**SPECIAL FIREFIGHTING PROCEDURES:**

None required; however, when fighting chemical fires, self-contained breathing apparatus and protective clothing is recommended.

**EXPLOSION LIMITS IN AIR - LOWER (%)** .....Unknown

**EXPLOSION LIMITS IN AIR - UPPER (%)** .....Unknown

**AUTOIGNITION TEMP (° F)** .....Unknown

**UNUSUAL FIRE AND EXPLOSION HAZARDS:**

High concentrations of dust may present a dust explosion hazard.

**6. ACCIDENTAL RELEASE MEASURES**

**ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:**

The spill should first be contained and the area should be cleaned by wet-sweeping or vacuum cleaning (HEPA filter). Minimize the creation of dust. Approved NIOSH respirator for dust should be worn.

**7. HANDLING AND STORAGE**

**HANDLING:**

Avoid contact with skin and eyes. Avoid breathing dust. Use only with adequate ventilation. Always use gloves and safety glasses when opening/emptying containers or processing this material. Do not eat or drink in work area. Wash in soap and water after exposure to any dust.

**STORAGE:**

This material should be stored in sealed containers to avoid dampness and dust. Partly used containers should be sealed. Otherwise, no special precautions are required.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### ENGINEERING CONTROLS:

Proper ventilation should be installed in order to maintain cobalt dust concentration in the air below the occupational exposure limits.

### RESPIRATORY PROTECTION EQUIPMENT:

Use a dust respirator, suitable for sub micron particles.

### PROTECTIVE GLOVES:

Gloves, rubber or impervious coating.

### EYE AND FACE PROTECTION:

Wear safety glasses or face shield in operations that do scatter fine particles in the air.

### OTHER PROTECTIVE EQUIPMENT:

To prevent repeated or prolonged skin contact, wear impervious clothing and boots.

### VENTILATION:

Use local exhaust ventilation directed towards the source of dust and which is adequate to limit personal exposure to levels which do not exceed the PEL or TLV. If such equipment is not available use respirators as specified above.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Range/Point .....	Unknown
Vapor Pressure .....	Unknown
Vapor Density (AIR=1) .....	Unknown
Freezing Point .....	Unknown
Melting Point .....	1800° C
Physical State .....	Powder
Color .....	Black
% Volatile by Weight .....	Unknown
% Volatile by Volume .....	Unknown
Evaporation Rate ( Butyl Acetate=1) .....	Unknown
Specific Gravity @ 25°C .....	0.9
Weight per gallon .....	8.3 lbs.

## 10. STABILITY AND REACTIVITY

### STABILITY:

Stable.

### HAZARDOUS POLYMERIZATION:

Will not occur.

### HAZARDOUS THERMAL DECOMPOSITION/COMBUSTION PRODUCTS:

Toxic fumes of Cobalt Oxide.

### INCOMPATIBILITY (MATERIALS TO AVOID):

Strong oxidizing agents.

### CONDITIONS TO AVOID:

Avoid dust generation.

## 11. TOXICOLOGICAL INFORMATION

### TOXICITY DATA:

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](http://www.iarc.fr)) for most recent information.

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



**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.

**CHINESE INVENTORY:**

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

## 16. OTHER INFORMATION

**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.

## 17. LABEL INFORMATION

**SIGNAL WORD:**

CAUTION

**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 and respiratory irritation.

WARNING: This product contains a chemical known to the State of California to cause cancer.

**EYES:**

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

**SKIN:**

Remove victim from contaminated area. Wash immediately and thoroughly with soap or mild detergent and water. Remove and isolate contaminated clothing, jewelry, and shoes. Gently brush away excess solid contaminant. Consult a physician if irritation persists.

**INHALATION:**

Remove from exposure. Provide ventilation assistance and oxygen as indicated. Physicians should administer usual asthma medications for acute attacks.

**INGESTION:**

Give large amounts of water to drink if person is completely conscious. Get medical attention as a precaution.

**HANDLING:**

Avoid contact with skin and eyes. Avoid breathing the dust. Use with adequate ventilation. Always use an approved respirator for dust, gloves and safety glasses when opening/emptying containers or processing this material. Do not eat or drink in work area. Wash in soap and water after exposure to any dust.

**STORAGE:**

This material should be stored in sealed containers to avoid dampness and dust. Partly used containers should be sealed. Otherwise, no special precautions are required.

**ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:**

The spill should first be contained and the area should be cleaned by wet-sweeping or vacuum cleaning (HEPA filter). Minimize the creation of dust. Approved NIOSH respirator for dust should be worn.

**EXTINGUISHING MEDIA:**

Dry chemical, carbon dioxide (CO<sub>2</sub>), water.