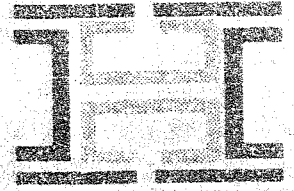


THE HALL CHEMICAL COMPANY

Material Safety Data Sheet



SECTION I - IDENTIFICATION OF PRODUCT

SUPPLIER'S NAME THE HALL CHEMICAL COMPANY	EMERGENCY TELEPHONE NUMBER CHEMTEC: HALL CHEMICAL: 800-424-9300 216-744-8500
ADDRESS 28960 LAKELAND BOULEVARD, WICKLIFFE, OHIO 44092-0200	
CHEMICAL NAME AND SYNONYMS Cobalt Carbonate Cobalt Carbonate	TRADE NAMES AND SYNONYMS Cobalt Carbonate
HAZARDOUS MATERIAL DESCRIPTION AND PROPER SHIPPING NAME (49CFR172.101) N/A	HAZARD CLASS (49CFR 172.101) N/A
CHEMICAL FAMILY Inorganic Metallic Salt	FORMULA CoCO ₃
DATE THIS FORM PREPARED November 1, 1985	PREPARED BY CAS NUMBER J. Gandhi 7542-09-4

SECTION II - HAZARDOUS INGREDIENTS

MATERIAL OR COMPONENT Cobalt Carbonate 100%	OCCUPATIONAL EXPOSURE LIMITS OSHA PEL - 0.1 mg/m ³ as Cobalt ACGIH TWA - No specific TLV established (1985-86)
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SECTION III - PHYSICAL DATA

BOILING POINT (°F) Decomposes	VAPOR PRESSURE (mm Hg) N/A	VAPOR DENSITY (AIR=1) N/A
SOLUBILITY IN WATER Insoluble	SPECIFIC GRAVITY (WATER=1) 4.13 gm/cc @25°C	% VOLATILE BY VOLUME N/A
APPEARANCE AND ODOR Pink powder, odorless	EVAPORATION RATE N/A	

SECTION IV - FIRE AND EXPLOSIVE DATA

FLASH POINT (METHOD USED) Non-Flammable	FLAMMABLE LIMITS N/A	LEL	UEL
EXTINGUISHING MEDIA Dry Chemical, CO ₂ , Water Spray			

SPECIAL FIRE FIGHTING PROCEDURES

Not a fire hazard, wear self-contained breathing apparatus when large quantities are involved.

UNUSUAL FIRE AND EXPLOSION HAZARDS

None expected

SECTION V - HEALTH HAZARD DATA

OCCUPATIONAL EXPOSURE LIMITS
OSHA PEL - Permissible exposure limit - 0.1 mg/m³ as Cobalt
ACGIH TWA - No specific TLV established (1985-86)

EFFECT OF OVEREXPOSURE
 Eye - May cause irritation.
 Ingestion - Toxicity due to ingestion is low.
 Skin - May cause local dermatitis which is relieved when removed. May cause allergic dermatitis.
 Inhalation - May cause irritation to upper respiratory tract. May cause allergic response in some individuals with asthma.

EMERGENCY AND FIRST AID PROCEDURES

- Eye Contact - Irrigate with water at least 15 minutes. Consult physician.
- Skin Contact - Remove contaminated clothing. Wash skin thoroughly with soap and water. Consult physician.
- Inhalation - Remove to fresh air. May give oxygen. Consult physician.
- Accidental Ingestion - Induce vomiting if conscious. Consult physician.

SECTION VI - REACTIVITY DATA

STABILITY	UNSTABLE	CONDITIONS TO AVOID
	STABLE - Stable under normal temperature and pressure	N/A
INCOMPATIBILITY (MATERIALS TO AVOID)		
None expected		
HAZARD DECOMPOSITION PRODUCTS		
Toxic fumes and metal oxides may be present during decomposition.		
HAZARDOUS	MAY OCCUR	CONDITIONS TO AVOID
	POLYMERIZATION	N/A
	WILL NOT OCCUR	
	Not known to occur	

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Contain the spill. Pick up the spill in an approved container for disposal.
Flush area with water.

WASTE DISPOSAL METHOD

Dispose in accordance with Federal, State and Local laws.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFIC TYPE)

Use NIOSH approved respiratory protection where airborne level exceeds appropriate occupational exposure limit.

VENTILATION	LOCAL EXHAUST	X	SPECIAL	N/A
	MECHANICAL (GENERAL)	X	OTHER	Adequate to maintain below exposure limit.
PROTECTIVE GLOVES			EYE PROTECTION	
Wear rubber gloves to avoid skin contact.			Wear goggles where eye contact may occur.	
OTHER PROTECTIVE EQUIPMENT				
Wear protective coverall as appropriate to avoid skin contact.				

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTION TO BE TAKEN IN HANDLING AND STORING

Keep container closed. Protect against physical damage.
Avoid contact with skin, eyes, clothing.

OTHER PRECAUTIONS

Avoid breathing and use only with adequate ventilation.
Wash thoroughly after handling.

ADDITIONAL INFORMATION

Chronic pulmonary disease has been reported in workers in the cemented tungsten carbide industry where cobalt is used. This effect has not been reported in workers refining or using cobalt metal, cobalt oxide and other compounds of cobalt.

Toxicity data - ipr Rat - LD₅₀ 2002 mg/kg ipr - Intraperitoneal, LD₅₀ = Lowest published lethal dose

ABOVE DATA REFERENCE - REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES 1981-82

Information presented herein has been compiled from sources considered to be dependable and is accurate and reliable to the best of the knowledge and belief of The Hall Chemical Co., but is not guaranteed to be so. The Company makes no representations or warranties, express or implied. Customers are encouraged to conduct their own tests.