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SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG #:	30664
NAME:	Cobalt (II,III) oxide
SYNONYMS:	
24 HOUR EMERGENCY TELEPHONE:	(800) 535-5053(USA) 352-323-3500 (INTERNATIONAL)
TO REQUEST AN MSDS:	(800) 869-9290
CUSTOMER SERVICE:	(630) 766-2112

SECTION 2. HAZARDS IDENTIFICATION

CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

GHS CLASSIFICATION IN ACCORDANCE WITH 29 CFR 1910 (OSHA HCS)
SUSPECTED OF CAUSING CANCER (CATEGORY 2), H351
MAY CAUSE AN ALLERGIC SKIN REACTION (CATEGORY 1), H317

FOR THE FULL TEXT OF THE H-STATEMENTS MENTIONED IN THIS SECTION, SEE
SECTION 16.

**GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS
PICTOGRAM**



SIGNAL WORD WARNING

HAZARD STATEMENT(S)

H317 MAY CAUSE AN ALLERGIC SKIN REACTION
H351 SUSPECTED OF CAUSING CANCER

PRECAUTIONARY STATEMENT(S)

P201 OBTAIN SPECIAL INSTRUCTIONS BEFORE USE.
P261 AVOID BREATHING DUST /FUMES /GAS/ MIST/ VAPOURS/
 SPRAY.
P280 WEAR PROTECTIVE GLOVES/PROTECTIVE CLOTHING/EYE
 PROTECTION/FACE PROTECTION.
P308 + P313 IF EXPOSED OR CONCERNED: GET MEDICAL ADVICE
 /ATTENTION.
P405 STORE LOCKED UP.
P501 DISPOSE OF CONTENTS/ CONTAINER TO AN APPROVED
 WASTE DISPOSAL PLANT.

**HAZARDS NOT
OTHERWISE
CLASSIFIED (HNOC)
OR NOT COVERED
BY GHS** NONE

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

MF: Co₃O₄

MW: 240.8

CAS-NO. 1308-06-1

PURITY: ≥ 99.99% (Trace metals basis)

HAZARDOUS COMPONENTS

COMPONENT	CLASSIFICATION	CONCENTRATION
Cobalt (II,III) oxide	SKIN SENS. 1; CARC. 2; H317, H351	<= 100%

FOR THE FULL TEXT OF THE H-STATEMENTS MENTIONED IN THIS SECTION, SEE
SECTION 16.

SECTION 4. FIRST-AID MEASURES

DESCRIPTION OF FIRST AID MEASURES

GENERAL ADVICE	CONSULT A PHYSICIAN. SHOW THIS SAFETY DATA SHEET TO THE DOCTOR IN ATTENDANCE.MOVE OUT OF DANGEROUS AREA.
IF INHALED	IF BREATHED IN, MOVE PERSON INTO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. CONSULT A PHYSICIAN.
IN CASE OF SKIN CONTACT	WASH OFF WITH SOAP AND PLENTY OF WATER. CONSULT A PHYSICIAN
IN CASE OF EYE CONTACT	RINSE OPENED EYE FOR SEVERAL MINUTES UNDER RUNNING WATER. THEN CONSULT A DOCTOR.
IF SWALLOWED	NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. RINSE MOUTH WITH WATER. CONSULT A PHYSICIAN.
MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED	SUSPECTED OF CAUSING CANCER. MAY CAUSE AN ALLERGIC SKIN REACTION.
INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED	NO DATA AVAILABLE

SECTION 5. FIRE AND EXPLOSION DATA

EXTINGUISHING MEDIA

SUITABLE EXTINGUISHING MEDIA	PRODUCTS IS NOT FLAMMABLE. USE FIRE-FIGHTING MEASURES THAT SUIT THE SURROUNDING FIRE.
SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE	NO DATA AVAILABLE
ADVICE FOR FIREFIGHTERS	WEAR SELF-CONTAINED BREATHING APPARATUS FOR FIREFIGHTING IF NECESSARY.
FURTHER INFORMATION	NO DATA AVAILABLE

SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

USE PERSONAL PROTECTIVE EQUIPMENT. AVOID DUST FORMATION. AVOID BREATHING VAPOURS, MIST OR GAS. ENSURE ADEQUATE VENTILATION. EVACUATE PERSONNEL TO SAFE AREAS. AVOID BREATHING DUST. FOR PERSONAL PROTECTION SEE SECTION 8.

ENVIRONMENTAL PRECAUTIONS

PREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE TO DO SO. DO NOT LET PRODUCT ENTER DRAINS. DISCHARGE INTO THE ENVIRONMENT MUST BE AVOIDED.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

PICK UP AND ARRANGE DISPOSAL WITHOUT CREATING DUST. SWEEP UP AND SHOVEL. KEEP IN SUITABLE, CLOSED CONTAINERS FOR DISPOSAL.

REFERENCE TO OTHER SECTIONS

FOR DISPOSAL SEE SECTION 13.

SECTION 7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

KEEP CONTAINER TIGHTLY SEALED. STORE IN COOL, DRY PLACE IN TIGHTLY CLOSED CONTAINERS. ENSURE GOOD VENTILATION AT WORKPLACE.

FOR PRECAUTIONS SEE SECTION 2.2.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

KEEP CONTAINER TIGHTLY CLOSED IN A DRY AND WELL-VENTILATED PLACE.

STORE AWAY FROM OXIDIZING AGENTS.

Store at RT

SPECIFIC END USE(S)

APART FROM THE USES MENTIONED IN SECTION 1.2 NO OTHER SPECIFIC USES ARE STIPULATED

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CONTROL PARAMETERS

COMPONENTS WITH WORKPLACE CONTROL PARAMETERS

CONTAINS NO SUBSTANCES WITH OCCUPATIONAL EXPOSURE LIMIT VALUES.

EXPOSURE CONTROLS

APPROPRIATE ENGINEERING CONTROLS	HANDLE IN ACCORDANCE WITH GOOD INDUSTRIAL HYGIENE AND SAFETY PRACTICE. WASH HANDS BEFORE BREAKS AND AT THE END OF WORKDAY.
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PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION	FACE SHIELD AND SAFETY GLASSES USE EQUIPMENT FOR EYE PROTECTION TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR EN 166(EU).
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SKIN PROTECTION	HANDLE WITH GLOVES. GLOVES MUST BE INSPECTED PRIOR TO USE. USE PROPER GLOVE REMOVAL TECHNIQUE (WITHOUT TOUCHING GLOVE'S OUTER SURFACE) TO AVOID SKIN CONTACT WITH THIS PRODUCT. DISPOSE OF CONTAMINATED GLOVES AFTER USE IN ACCORDANCE WITH APPLICABLE LAWS AND GOOD LABORATORY PRACTICES. WASH AND DRY HANDS
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BODY PROTECTION	COMPLETE SUIT PROTECTING AGAINST CHEMICALS, THE TYPE OF PROTECTIVE EQUIPMENT MUST BE SELECTED ACCORDING TO THE CONCENTRATION AND AMOUNT OF THE DANGEROUS SUBSTANCE AT THE SPECIFIC WORKPLACE.
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RESPIRATORY PROTECTION	USE SUITABLE RESPIRATOR WHEN HIGH CONCENTRATIONS ARE PRESENT. USE RESPIRATOR WITH TYPE N95 (USA) OR PE PE (EN 143) CARTRIDGES AS A BACKUP TO ENGINEERING CONTROLS. RISK ASSESSMENT SHOULD BE PERFORMED TO DETERMINE IF AIR-PURIFYING RESPIRATORS ARE APPROPRIATE. ONLY USE EQUIPMENT TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS.
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CONTROL OF ENVIRONMENTAL EXPOSURE	PREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE TO DO SO. DO NOT LET PRODUCT ENTER DRAINS. DISCHARGE INTO THE ENVIRONMENT MUST BE AVOIDED.
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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Fine black powder
ODOUR	NO DATA AVAILABLE

ODOUR THRESHOLD	NO DATA AVAILABLE
PH	NO DATA AVAILABLE
MELTING	895 °C (Lit.)
POINT/FREEZING POINT	
INITIAL BOILING POINT	
AND BOILING RANGE	
FLASH POINT	
EVAPORATION RATE	NO DATA AVAILABLE
FLAMMABILITY (SOLID, GAS)	NO DATA AVAILABLE
UPPER/LOWER	NO DATA AVAILABLE
FLAMMABILITY OR	
EXPLOSIVE LIMITS	
VAPOUR PRESSURE	NO DATA AVAILABLE
VAPOUR DENSITY	NO DATA AVAILABLE
RELATIVE DENSITY	6.11 (Lit.)
WATER SOLUBILITY	INSOLUBLE
PARTITION COEFFICIENT: N- OCTANOL/WATER	NO DATA AVAILABLE
AUTO-IGNITION	NO DATA AVAILABLE
TEMPERATURE	
DECOMPOSITION	NO DATA AVAILABLE
TEMPERATURE	
VISCOSITY	NO DATA AVAILABLE
EXPLOSIVE PROPERTIES	NO DATA AVAILABLE
OXIDIZING PROPERTIES	NO DATA AVAILABLE

OTHER SAFETY INFORMATION

NO DATA AVAILABLE

SECTION 10. STABILITY AND REACTIVITY

REACTIVITY	NO DATA AVAILABLE
CHEMICAL STABILITY	STABLE UNDER RECOMMENDED STORAGE CONDITIONS.
POSSIBILITY OF HAZARDOUS REACTIONS	REACTS WITH STRONG OXIDIZING AGENTS.
CONDITIONS TO AVOID	NO DATA AVAILABLE
INCOMPATIBLE MATERIALS	OXIDIZING AGENTS
HAZARDOUS DECOMPOSITION PRODUCTS	DECOMPOSITION WILL NOT OCCUR IF USED AND STORED ACCORDING TO SPECIFICATIONS.

SECTION 11. TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

ACUTE TOXICITY	THE RTECS CONTAINS ACUTE TOXICITY DATA FOR THIS SUBSTANCE.
SKIN CORROSION/IRRITATION	MAY CAUSE IRRITATION
SERIOUS EYE DAMAGE/EYE IRRITATION	MAY CAUSE IRRITATION
RESPIRATORY OR SKIN SENSITISATION	MAY CAUSE AN ALLERGIC SKIN REACTION.
GERM CELL MUTAGENICITY	NO EFFECTS KNOWN.
CARCINOGENICITY	SUSPECTED OF CAUSING CANCER.
IARC:	2B - GROUP 2B: POSSIBLY CARCINOGENIC TO HUMANS: LIMITED EVIDENCE IN HUMANS IN THE ABSENCE OF SUFFICIENT EVIDENCE IN EXPERIMENTAL ANIMALS.
ACGIH:	A3 ANIMAL CARCINOGEN: AGENT IS CARCINOGENIC IN EXPERIMENTAL ANIMALS AT A RELATIVELY HIGH DOSE, BY ROUTE(S) OF ADMINISTRATION, AT SITE(S), OF HISTOLOGIC TYPE(S), OR BY MECHANISM(S) NOT CONSIDERED RELEVANT TO WORKER EXPOSURE. AVAILABLE EPIDEMIOLOGIC STUDIES DO NOT CONFIRM AN INCREASED RISK OF CANCER IN EXPOSED HUMANS. AVAILABLE EVIDENCE SUGGESTS THAT THE AGENT IS NOT LIKELY TO CAUSE CANCER IN HUMANS EXCEPT UNDER UNCOMMON OR UNLIKELY ROUTES OR LEVELS OF EXPOSURE.
REPRODUCTIVE TOXICITY	NO DATA AVAILABLE
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE	NO DATA AVAILABLE
SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE	NO DATA AVAILABLE
ASPIRATION HAZARD	NO DATA AVAILABLE

**ADDITIONAL
INFORMATION**

TO THE BEST OF OUR KNOWLEDGE THE ACUTE AND
CHRONIC TOXICITY OF THIS SUBSTANCE IS NOT
FULLY KNOWN.

SECTION 12. ECOLOGICAL INFORMATION

TOXICITY	NO DATA AVAILABLE
PERSISTENCE AND DEGRADABILITY	NO DATA AVAILABLE
BIOACCUMULATIVE POTENTIAL	NO DATA AVAILABLE
MOBILITY IN SOIL	NO DATA AVAILABLE
RESULTS OF PBT AND VPVB ASSESSMENT	PBT/VPVB ASSESSMENT NOT AVAILABLE AS CHEMICAL SAFETY ASSESSMENT NOT REQUIRED/NOT CONDUCTED
OTHER ADVERSE EFFECTS	NO FURTHER RELEVANT INFORMATION AVAILABLE.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE TREATMENT METHODS

PRODUCT	OFFER SURPLUS AND NON-RECYCLABLE SOLUTIONS TO A LICENSED DISPOSAL COMPANY. CONTACT A LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE OF THIS MATERIAL. DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER.
CONTAMINATED PACKAGING	DISPOSE OF AS UNUSED PRODUCT.

SECTION 14. TRANSPORT INFORMATION

DOT (US)

PROPER SHIPPING NAME: ENVIRONMENTALLY HAZARDOUS SUBSTANCE,
SOLID, N.O.S.(Cobalt (II,III) oxide)
UN NUMBER: 3077
CLASS: 9
PACKING GROUP: III

IMDG

PROPER SHIPPING NAME: ENVIRONMENTALLY HAZARDOUS SUBSTANCE,
SOLID, N.O.S.(Cobalt (II,III) oxide)
UN NUMBER: 3077
CLASS: 9
PACKING GROUP: III
EMS-NO: F-A, S-F

IATA

PROPER SHIPPING NAME: ENVIRONMENTALLY HAZARDOUS SUBSTANCE,
SOLID, N.O.S.(Cobalt (II,III) oxide)
UN NUMBER: 3077
CLASS: 9
PACKING GROUP: III

SECTION 15. REGULATORY INFORMATION

SARA 302 COMPONENTS NO CHEMICALS IN THIS MATERIAL ARE SUBJECT TO
THE REPORTING REQUIREMENTS OF SARA TITLE III,
SECTION 302.

SARA 313 COMPONENTS THE FOLLOWING COMPONENTS ARE SUBJECT TO
REPORTING LEVELS ESTABLISHED BY SARA TITLE III,
SECTION 313:
CAS-NO. REVISION DATE
Cobalt (II,III) oxide 1308-06-1

MASSACHUSETTS RIGHT TO KNOW COMPONENTS
NO COMPONENTS ARE SUBJECT TO THE MASSACHUSETTS RIGHT TO KNOW ACT

PENNSYLVANIA RIGHT TO KNOW COMPONENTS
CAS-NO. REVISION DATE
Cobalt (II,III) oxide 1308-06-1

NEW JERSEY RIGHT TO KNOW COMPONENTS
CAS-NO. REVISION DATE
Cobalt (II,III) oxide 1308-06-1

CALIFORNIA PROP. 65 COMPONENTS WARNING! THIS PRODUCT CONTAINS A CHEMICAL
KNOWN TO THE STATE OF CALIFORNIA TO CAUSE
CANCER.
CAS-NO. REVISION DATE
Cobalt (II,III) oxide 1308-06-1

SECTION 16. OTHER INFORMATION

FULL TEXT OF H-STATEMENTS REFERRED TO UNDER SECTIONS 2 AND 3.

SKIN SENS.	SENSITIZATION, SKIN
CARC.	CARCINOGENICITY
H317	MAY CAUSE AN ALLERGIC SKIN REACTION
H351	SUSPECTED OF CAUSING CANCER

HMIS RATING

HEALTH HAZARD:	1
CHRONIC HEALTH HAZARD:	
FLAMMABILITY:	0
PHYSICAL HAZARD	1

NFPA RATING

HEALTH HAZARD:	1
FIRE HAZARD:	0
REACTIVITY HAZARD:	1

MSDS LEGEND

MW:	MOLECULAR WEIGHT
MF:	MOLECULAR FORMULA
VOC:	VOLATILE ORGANIC COMPOUNDS
ACGIH:	AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS
CAS:	CHEMICAL ABSTRACTS SERVICE REGISTRY NUMBER
OSHA:	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PEL:	PERMISSIBLE EXPOSURE LIMIT (OSHA)
TLV:	THRESHOLD LIMIT VALUE (ACGIH)
IMPORTANT:	

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