




SAFETY DATA SHEET

Effective Date: 11-2-17	Revision: D	ANH	Language: EN
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1. IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER	
1.1. GHS product identifier.	Cobalt Products
Other means of identification.	Keyshure® Cobalt (F3520110) Keylated® Cobalt (F3520110) Key-Co (F3520110)
1.2. Recommended use and restrictions on use.	Used as a chelate trace mineral feed additive.
1.3. Supplier's details.	Name: Balchem Corporation Address: 52 Sunrise Park Road New Hampton, NY 10958 USA Phone number: +1 845-326-5600 Fax number: +1 845-326-5717 Internet: www.balchem.com Email: sds@balchem.com
1.4. Emergency phone number.	CHEMTREC: 800-424-9300 (USA) +1 703-527-3887 (International)

2. HAZARDS IDENTIFICATION																																
2.1. GHS classification of the substance or mixture and any national or regional information.	Acute toxicity, oral: Category 4 Skin corrosion/ irritation: Category 2 Serious eye damage/ eye irritation: Category 2 Hazardous to the aquatic environment, chronic hazard: Category 2																															
2.2. GHS label elements, including precautionary statements.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="14" style="text-align: center; vertical-align: middle;">  Warning </td> <td style="width: 15%;">H302</td> <td>Harmful if swallowed.</td> </tr> <tr> <td>H315</td> <td>Causes skin irritation.</td> </tr> <tr> <td>H319</td> <td>Causes serious eye irritation.</td> </tr> <tr> <td>P264</td> <td>Wash hands thoroughly after handling.</td> </tr> <tr> <td>P270</td> <td>Do not eat, drink or smoke when using this product.</td> </tr> <tr> <td>P280</td> <td>Wear protective gloves/protective clothing/eye protection/face protection.</td> </tr> <tr> <td>P301+ P312</td> <td>IF SWALLOWED: Call a POISON CENTER / doctor if you feel unwell.</td> </tr> <tr> <td>P302+ P352+ P321</td> <td>IF ON SKIN: Rinse skin with water/shower. Specific treatment (see section 4 First Aid Measures).</td> </tr> <tr> <td>P305+ P351+ P338</td> <td>IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</td> </tr> <tr> <td>P330</td> <td>Rinse mouth.</td> </tr> <tr> <td>P332+ P313</td> <td>If skin irritation occurs: Get medical advice/attention.</td> </tr> <tr> <td>P337+ P313</td> <td>If eye irritation persists: Get medical advice/attention.</td> </tr> <tr> <td>P362+ P364</td> <td>Take off contaminated clothing and wash it before reuse.</td> </tr> <tr> <td>P391</td> <td>Collect spillage. Hazardous to the aquatic environment</td> </tr> <tr> <td>P501</td> <td>Dispose of contents/container in accordance with local/ regional/ international regulations.</td> </tr> </table>	 Warning	H302	Harmful if swallowed.	H315	Causes skin irritation.	H319	Causes serious eye irritation.	P264	Wash hands thoroughly after handling.	P270	Do not eat, drink or smoke when using this product.	P280	Wear protective gloves/protective clothing/eye protection/face protection.	P301+ P312	IF SWALLOWED: Call a POISON CENTER / doctor if you feel unwell.	P302+ P352+ P321	IF ON SKIN: Rinse skin with water/shower. Specific treatment (see section 4 First Aid Measures).	P305+ P351+ P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.	P330	Rinse mouth.	P332+ P313	If skin irritation occurs: Get medical advice/attention.	P337+ P313	If eye irritation persists: Get medical advice/attention.	P362+ P364	Take off contaminated clothing and wash it before reuse.	P391	Collect spillage. Hazardous to the aquatic environment	P501	Dispose of contents/container in accordance with local/ regional/ international regulations.
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2.3. Other hazards which do not result in classification or are not covered by the GHS.																																

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3. COMPOSITION/INFORMATION ON INGREDIENTS			
3.1. Substance:			
Chemical identity.	See section 3.2.		
Common name, synonyms, etc.	See section 3.2.		
CAS number, EC number, etc.	See section 3.2.		
Impurities and stabilizing additives which are themselves classified and which contribute to the classification of the substance.	See section 3.2.		
3.2. Mixture:			
The chemical identity and concentration or concentration ranges of all ingredients which are hazardous within the meaning of the GHS and are present above their cutoff levels.	Chemical Identity:	Concentrati	CAS No.:
	Cobalt Chelate	100%	n/a

4. FIRST AID MEASURES	
4.1. Description of first aid measures.	<p>Eye contact: To prevent mechanical irritation, flush with clean, low-pressure water.</p> <p>Skin contact: No first aid is required. As a precaution, wash with soap and water, and wash contaminated clothing before reuse.</p> <p>Inhalation: For significant exposure to any nuisance particles (dust or mist), remove to fresh air and, if there is difficulty breathing, get medical attention. Breathing dust from any source may cause respiratory irritation and/or injury. Chronic exposure to dust from any source may result in delayed lung injury. Breathing metal dusts may cause flu-like illness (metal fume fever) characterized by chills, fever, aching muscles, dryness in the mouth and throat, and headache for 24 to 48 hours.</p> <p>Ingestion: Rinse out mouth thoroughly with water, In severe cases call physician immediately.</p>
4.2. Most important symptoms/effects.	<p>Eyes: May causes serious irritation to the eyes.</p> <p>Skin: May cause irritation to skin.</p> <p>Inhalation: In severe cases call physician immediately.</p> <p>Ingestion: In severe cases call physician immediately.</p>
4.3. Indication of immediate medical attention and special treatment needed, if necessary.	Treatment should be based on the judgment of the physician in response to the reactions of the patient.

5. FIREFIGHTING MEASURES	
5.1. Suitable (and unsuitable) extinguishing media.	Water spray, alcohol-resistant foam, CO2, dry chemical.
5.2. Specific hazards arising from the chemical.	No specific hazards. Combustion will produce compounds of carbon, hydrogen, nitrogen, copper and oxygen.
5.3. Special protective equipment and precautions for firefighters.	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Avoid generating dust. Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source, is a potential dust explosion hazard. This material may present an explosion and deflagration hazard risk when dispersed and ignited in air. Secondary explosions may also pose a risk once an initial explosion occurs with the presence of a combustible dust or powder in the area.

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6. ACCIDENTAL RELEASE MEASURES	
6.1. Personal precautions, protective equipment and emergency procedures.	<p>Wear appropriate protective clothing as described in Section 8.</p> <p>For non-emergency personnel: Dust should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (e.g., avoid clearing dust surfaces with compressed air).</p> <p>For emergency responders: No specific protective equipment is required.</p>
6.2. Environmental precautions.	Dust should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (e.g., avoid clearing dust surfaces with compressed air).
6.3. Methods and materials for containment and cleaning up.	Vacuum or sweep up spilled material for reuse or disposal. Avoid creation of airborne dusts. Place dry material into an appropriate container for disposal. Flush spill area with water to remove residue. Report releases as required by local, state and federal authorities.
7. HANDLING AND STORAGE	
7.1. Precautions for safe handling.	Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Avoid breathing dust.
7.2. Conditions for safe storage, including any incompatibilities.	Ensure containers are properly secured before moving. Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precaution, such as electrical grounding and bonding, or inert atmospheres.
8. EXPOSURE CONTROLS/PERSONAL PROTECTION	
8.1. Control parameters.	Cobalt Chelate: OSHA Nuisance Dust PELs (29 CFR 1910.1000): Respirable fraction = 5 mg/m ³ ; Total = 15 mg/m ³
8.2. Appropriate engineering controls.	<p>Provide ventilation and particulate control to maintain airborne levels below the exposure guidelines. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Use only appropriately classified electrical equipment and powered industrial trucks.</p> <p>Facilities storing or utilizing this material should be equipped with an eyewash station in proximity per OSHA standards.</p>

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<p>8.3. Individual protection measures, such as personal protective equipment.</p>	<p>Eye protection: Safety glasses recommended. If there is a potential for exposure to particles (mist or dust) which would cause mechanical injury to the eye, wear safety goggles, face shield or other full-face protection.</p> <p>Skin protection: No additional precautions needed under normal use conditions.</p> <p>Respiratory protection: In operations where exposures may be exceed established exposure guidelines, a NIOSH approved respirator with dust/mist cartridges or supplied air respirator appropriate for the form and concentration of the contaminants should be used. Selection and use of respiratory equipment must be in accordance with OSHA 1910.134 and good industrial hygiene practice.</p>
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9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties.

Dry Products	
Appearance (physical state, color, etc.).	Light to dark pink-purple powder
Odor.	Metallic and Cereal odor
Odor threshold.	Not determined.
pH.	5 – 7 in water
Melting point/freezing point.	Not determined.
Initial boiling point and boiling range.	Not determined.
Flash point.	Not determined.
Evaporation rate.	Not determined. Assumed to be essentially zero.
Flammability (solid, gas).	Not flammable.
Upper/lower flammability or explosive limits.	See section 2.3.
Vapor pressure.	Not determined. Assumed to be essentially zero.
Vapor density.	Not determined. Assumed to be essentially zero.
Relative density.	900 kg/m ³
Solubility (ies).	Cobalt SoluKey is soluble in water; all other products are partially soluble.
Partition coefficient: n-octanol/water.	Not determined
Auto ignition temperature.	Not determined
Decomposition temperature.	Not determined
Viscosity.	Not determined
Oxidizing properties.	Not an oxidizer.

10. STABILITY AND REACTIVITY

10.1. Reactivity.	Not considered reactive.
10.2. Chemical stability.	Stable.
10.3. Possibility of hazardous reactions.	No hazardous reactions expected.
10.4. Conditions to avoid (e.g., static discharge, shock or vibration).	Do not heat to boiling or decomposition in sealed container.
10.5. Incompatible materials.	Avoid contact with oxidizers.
10.6. Hazardous decomposition products.	Compounds of carbon, hydrogen, nitrogen, iron, magnesium, and oxygen.

11. TOXICOLOGICAL INFORMATION

11.1. Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact);	Not determined.
11.2. Symptoms related to the physical, chemical and toxicological characteristics;	Not determined.
11.3. Delayed and immediate effects and also chronic effects from short- and long-term exposure;	Not determined.

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11.4. Numerical measures of toxicity (such as acute toxicity estimates).	Not determined.
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12. ECOLOGICAL INFORMATION

12.1. Ecotoxicity (aquatic and terrestrial, where available).	Not determined.
12.2. Persistence and degradability.	Not determined.
12.3. Bioaccumulative potential.	Not determined. Expected to be readily biodegradable.
12.4. Mobility in soil.	Not determined.
12.5. Results of PBT and vPvB	Not determined.
12.6. Other adverse effects.	Not determined.

13. DISPOSAL CONSIDERATIONS

13.1. Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging.	<p>The generation of waste should be avoided or minimized wherever possible.</p> <p>Product: Not considered a hazardous waste under US Federal Hazardous Waste Regulations (40 CFR 261). Consult local regulations regarding proper disposal as they may be more restrictive or otherwise different from Federal/International regulations.</p> <p>Packaging: Dispose of packaging contaminated by product in accordance with regulations.</p>
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14. TRANSPORT INFORMATION

14.1. UN number.	N/A
14.2. UN proper shipping name.	N/A
14.3. Transport hazard class (es).	N/A
14.4. Packing group, if applicable.	N/A
14.5. Marine pollutant (Yes/No).	No
14.6. Special precautions which a user needs to be aware of or needs to comply with in connection with transport or conveyance either within or outside their premises.	Product is not listed in Appendix B to the 49 CFR 172.101 table and therefore is not considered a marine pollutant in the US.
14.7. Transportation in bulk according to Annex II of MARPOL 73/78 and the IBC Code.	Not shipped in Bulk

15. REGULATORY INFORMATION

15.1. Safety, health and environmental regulations specific for the product in question.		
US Federal:	CERCLA:	Reportable Quantity – None (40 CFR 302.4)
	CWA:	Release into a waterway may require reporting to the National Response Center @ 800-424-8802 (40 CFR 116.4).
	FDA/USDA:	Follow Good Manufacturing Practice (GMP).
	FIFRA:	Not applicable.
	OSHA:	This product is considered hazardous under the GHS guidelines of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.
	PSM:	This product is not subject to Process Safety Management (29 CFR 1910.119).
	RCRA:	If discarded in purchased form, this product is not a listed or characteristic hazardous waste. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal whether a material containing the product or derived from the product should be classified as a hazardous waste (40 CFR 261.20-24).
	RMP:	Not listed under the Risk Management Plan (40 CFR 68).

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	SARA TITLE III:	Section 302 Extremely Hazardous Substances – None (40 CFR 355) Section 311/312 Hazard Categories – One or more components used in the manufacturing of this product maybe listed under (40 CFR 370.2) Section 313 Toxic Chemicals – One or more components used in the manufacturing of this product maybe listed under (40 CFR 372.65)
	TSCA:	On TSCA inventory.
US State:	This product as produced is not listed on California Proposition 65	
Canadian:	CFIA:	One or more components used in the manufacturing of this product are on the WHMIS ingredients disclosure.
EU:	CLP:	Regulation (EC) No. 1272/2008 Classification, Labeling and Packaging applies
	EINECS:	Not applicable.
	REACH:	Regulation (EC) No. 1907/2006 Registration, Evaluation, Authorization and Restriction of Chemicals does not apply to feed.
	Safety Data Sheets:	Regulation (EU) No. 453/2010 applies.
15.2. It shall be indicated if a chemical safety assessment has been carried out for the substance or the mixture by the supplier.	Not applicable.	

16. OTHER INFORMATION INCLUDING INFORMATION ON PREPARATION AND REVISION

Reason for Issue:	New	Reformatted per EU GHS.	
	A	Reformatted per OSHA GHS; added section 15.2 and	
	B	Modified to include GHS hazards	10-7-2015
	C	Modified - Removed Marine Pollutant Hazard	10/31/2017
Risk Phrases Used:	See Section 2.		
Hazard Ratings:	The following NFPA hazard ratings are recommended for this product: Fire – 0; Health – 1; Reactivity – 0; Specific Hazard – None		
For safe handling, refer to NFPA 654, <i>Standard for the prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids.</i>			

THE FOLLOWING ABBREVIATIONS MAY BE USED IN THIS DOCUMENT:

ACGIH	American Council of Governmental Industrial Hygienists
AICS	Australian Inventory of Chemical Substances
CAS	Chemical Abstract Service
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CLP	Classification, Labeling and Packaging
CWA	Clean Water Act
D.O.T.	Department of Transportation
DSL	Domestic Substance List (Canada)
EC ₅₀	Effective concentration which induces a response halfway between the baseline and maximum.
EC	European Community
ECL	Existing Chemicals List (Korea)
EINECS	European Inventory of Existing Commercial Substances
EU	European Union
FDA	Food and Drug Administration
FIFRA	Federal Insecticide, Fungicide and Rodenticide Act
GHS	Globally Harmonized System
IBC	International Bulk Chemical Code
IDLH	Immediately Dangerous to Life and Health
K _{st}	Deflagration Index
LC ₅₀	Lethal concentration for 50% mortality of subject species
LD ₅₀	Lethal dose for 50% mortality of subject species
LD _{Lo}	Lethal dose low; the lowest dose of a substance introduced by any route other than inhalation reported to have caused death in humans or animals.
LEL / LFL	Lower Explosive Limit / Lower Flammable Limit
MARPOL	International Convention for the Prevention of Pollution from Ships

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MSHA	Mine Safety Health Administration
NFPA	National Fire Protection Association
NIOSH	National Institute of Occupational Safety and Health
OSHA	Occupational Safety and Health Administration
PBT	Persistent Bioaccumulative Toxic
PEL	Permissible Exposure Limit (default 8 hour day, 40 hour week TWA)
PSM	Process Safety Management
RCRA	Resource Conservation and Recovery Act
REACH	Registration, Evaluation, Authorization and Restriction of Chemical Substances
REL	Recommended Exposure Limit (default 10 hour day, 40 hour week TWA)
RMP	Risk Management Plan
SARA	Superfund Amendment and Reauthorization Act
STEL	Short Term Exposure Limit (default 15 minute TWA)
TD _{Lo}	Lowest dose to which humans or animals have been exposed and reported to produce a toxic effect other than cancer
TSCA	Toxic Substance Control Act
TWA	Time Weighted Average
UFL	Upper Flammable Limit
USDA	United States Department of Agriculture
vPvB	Very Persistent, Very Bioaccumulative

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.