

Kurt J. Lesker Company

Aluminum–Cobalt Alloy

**SECTION 1 : Chemical Product and Company Identification****MSDS Name:** Aluminum–Cobalt Alloy**Manufacturer Name:** Kurt J. Lesker Company**Address:**P.O. Box 10
1925 Route 51
Clairton, PA 15025**TELEPHONE NUMBERS:**
CHEMTREC (703) 527–3887 (outside USA)
US National Poison Hotline: (800) 222–1222

For emergencies in the US, call CHEMTREC: 800–424–9300

Manufacturer MSDS Revision Date:06/25/2008
SUPERCEDES: 06/27/2006
SUPERCEDES: 09/07/2004**Synonyms:**

Aluminum–cobalt alloy

Chemical Family: Metal**Chemical Formula:** Al–Co**Molecular Weight:** No data.**HMIS****Health Hazard:** 2**Fire Hazard:** 0**Reactivity:** 0**Personal Protection:** F

DOT HAZARD LABEL: No data.

OTHER HAZARD RATINGS:Health: 0
Flammability: 0
Reactivity: 0
Special Hazard: BMinimal: 0
Slight: 1
Moderate: 2
Serious: 3
Extreme: 4

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SECTION 2 : Hazardous Ingredients/Identity Information

Chemical Name	CAS#	Percent	
Aluminum	7429–90–5	0.0 – 100.0%	

RTECS:

BD0330000

OSHA PEL TWA: 15 mg/m³

ACGIH TLV TWA: 10 mg/m³

Hazardous: Yes

SARA Section 302: No

SARA Section 313: Yes

Other Exposure Guidelines:

5 mg/m³ resp

SEC.304 RQ: No

Chemical Name	CAS#	Percent	
Cobalt	7440-48-4	0.0 – 100.0%	

RTECS:

GF8750000

OSHA PEL TWA: 0.1 mg/m³

ACGIH TLV TWA: .02 mg/m³ Confirmed animal carcinogen

Hazardous: Yes

SARA Section 302: No

SARA Section 313: Yes

Other Exposure Guidelines:

No data.

SEC.304 RQ: No



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SECTION 3 : Physical And Chemical Characteristics

Physical State/Appearance:

Powder and pieces

Odor:

No odor

Physical State:

Solid

pH:

No data.

Vapor Pressure:

(VS. AIR OR MM HG): No data.

Vapor Density:

(VS. AIR = 1): No data.

Boiling Point:

No data.

Melting Point:

No data.

Solubility:

IN WATER: Insoluble

Specific Gravity:

(WATER = 1): No data.

Density:

No data.

Evaporation Point:

(VS BUTYL ACETATE=1): No data.

Percent Volatile:

Not Applicable

FlashPoint:

Not Applicable

Upper Flammable Explosive Limit:

Not Applicable

Lower Flammable Explosive Limit:

Not Applicable



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SECTION 4 : Fire And Explosion Hazards

Flash Point:

Not Applicable

Flash Point Method:

No data.

Upper Flammable or Explosive Limit: Not Applicable

Lower Flammable or Explosive Limit: Not Applicable

Extinguishing Media:

USE: Not applicable. Use suitable extinguishing agent for surrounding materials and type of fire.

Fire Fighting Instructions:

Firefighters must wear full face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. Fumes from fire are hazardous. Isolate runoff to prevent environmental pollution.

Unusual Fire Hazards:

ALUMINUM:

Dust is moderately flammable/explosive by heat, flame or chemical reaction with powerful oxidizers. May ignite on contact with vapors of AsCl₃, SCl₂, Se₂Cl₂, PCI₅; heating with barium peroxide; contact with O₂; mixtures with picric acid+water after a delayed period; exothermic reaction with water+iron powder which emits hydrogen gas; and spontaneously ignites in CS₂ vapors.

May ignite and react violently with mixtures of sodium peroxide and O₂+H₂O; on contact with halogens and interhalogens.

May react violently with hydrochloric acid, hydrofluoric acid, hydrogen chloride gas and disulfur dibromide; non-metals phosphorus, sulfur and selenium; with sulfur, Sb or As when heated; and potential violent reaction with sodium acetylid.

May have a violent or explosive reaction when heated with metal oxides, oxosalts, some halocarbons, sulfides or hot copper oxide worked with an iron or steel tool.

May have an explosive reaction with sodium sulfate above 800 deg C; in powdered form with KClO₄+Ba(NO₃)₂+KNO₃+H₂O and Ba(NO₃)₂+KNO₃+sulfur+vegetable adhesives+H₂O after delayed period; powder forms sensitive explosive mixture with oxidants; mixtures with powdered AgCl, NH₄, NO₃, or NH₄NO₃+Ca(NO₃)₂+formamide+H₂O; mixtures with ammonium peroxodisulfate+water; and potential explosive reaction with CCl₄ during ball milling operations (Sax, Dangerous Properties of Industrial Materials, eighth edition).

COBALT:

Contact with strong acids may form flammable hydrogen gas.
Ignites on contact with bromine pentafluoride.



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SECTION 5 : Health Hazards

Applies to all ingredients:

Route of Exposure:

Inhalation: No

Skin: No

Eyes: No

Ingestion: No

Other: No

Chronic Eye Contact:

No chronic health effects recorded.

Carcinogenicity:

OSHA Designation: Regulated: No

IARC Designation: Monographs: No

Signs/Symptoms:

SKIN: May cause redness, itching and inflammation.

EYE: May cause redness, itching and watering.

Aggravation of Pre-Existing Conditions:

Pre-existing respiratory disorders.

RECOMMENDED EXPOSURE LIMITS: See "Section 2"

Aluminum:

Potential Health Effects:

(ACUTE AND CHRONIC):

To the best of our knowledge the chemical, physical and toxicological properties of aluminum have not been thoroughly investigated and recorded.

Aluminum compounds have many commercial uses and are commonly found in industry. Many of these materials are active chemically and thus exhibit dangerous toxic and reactive properties. Inhalation of fine aluminum oxide particles is associated with Shaver's disease. (Sax, Dangerous Properties of Industrial Materials, eighth edition)

Inhalation:

Acute: Aluminum-inhaling of dust or powder may cause irritation to the respiratory system.

Chronic Inhalation:

Inhalation of finely divided aluminum powder may cause pulmonary fibrosis.

Chronic Ingestion:

Aluminum may be implicated in Alzheimer's disease.

Signs/Symptoms:

INHALATION: Aluminum may cause a red, dry, throat and coughing.

Cobalt:

Potential Health Effects:

(ACUTE AND CHRONIC):

Cobalt has a low toxicity by ingestion. Ingestion of soluble salts, produces nausea and vomiting by local irritation. In animals, administration of cobalt salts produces an increase in the total red cell mass of the blood. In humans, a single case of poisoning with liver and kidney damage has been attributed to cobalt. Locally, cobalt has been shown to produce dermatitis and investigators have been able to demonstrate a hypersensitivity of the skin to cobalt. There have been reports of hematologic, digestive and pulmonary changes in humans. (Sax, Dangerous Properties of Industrial Materials, eighth edition)

Eye Contact:

Acute: Cobalt may cause irritation and possibly damage the cornea.

Skin Contact:

Acute: Cobalt may cause irritation.

Inhalation:

Acute: Cobalt may cause shortness of breath, coughing, weight loss and pulmonary damage.

Ingestion:

Acute: Cobalt may be moderately toxic by ingestion. May cause acute cobalt poisoning.

Chronic Skin Contact:

Cobalt may cause allergic sensitization and dermatitis.

Chronic Inhalation:

Cobalt may cause diffuse nodular fibrosis and respiratory sensitivity.

Target Organs:

Cobalt may affect the respiratory and pulmonary system.

Signs/Symptoms:

INHALATION: Cobalt may cause shortness of breath, coughing and loss of weight.

INGESTION: Acute cobalt poisoning may cause: diarrhea, lower blood pressure and body temperature.

Applies to all ingredients:

Acute Health Effects:

LD50: See Carcinogenicity/Other Information

Inhalation Effects:

LC50: See Carcinogenicity/Other Information

Cobalt:

Acute Health Effects:

COBALT METAL TOXICITY DATA:

lms-rat TDLO: 126 mg/kg; NEO itr-rat LDLO: 25 mg/kg
lmp-rbt TDLO: 75 mg/kg; ETA ipr-mus LDLO 100 mg/kg
lpr-rat LDLO: 250 mg/kg; ivn-rbt LDLO: 100 mg/kg
lvn-rat LDLO: 100 mg/kg

Ingestion Effects:

Orl-rat LDLO: 1500 mg/kg orl-rbt LDLO: 750 mg/kg

Carcinogenicity:

IARC 2B: Possibly Carcinogenic to Humans. The exposure circumstances entails exposures that are possibly carcinogenic to humans. This category is used for agents, mixtures, and exposure circumstances for which there is limited evidence of carcinogenicity in humans and less than sufficient evidence of carcinogenicity in experimental animals. It may also be used when there is inadequate evidence of carcinogenicity in humans but there is sufficient evidence of carcinogenicity in experimental animals. In some instances, an agent, mixture, or exposure circumstance for which there is inadequate evidence of carcinogenicity in humans but limited evidence of carcinogenicity in experimental animals together with supporting evidence from other relevant data may be placed in the group.

ACGIH-TLV A3: Confirmed Animal Carcinogen with unknown relevance to humans: The 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) that may not be relevant to worker exposure. Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans. Available evidence does not suggest that the agent is likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure.



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SECTION 6 : Emergency And First Aid Procedures

Eye Contact:

Flush eyes with lukewarm water, lifting upper and lower eyelids, for at least 15 minutes. Seek medical attention if irritation persists.

Skin Contact:

Wash area with mild soap and water.

Inhalation:

Remove victim to fresh air; keep warm and quiet; give oxygen if breathing is difficult and seek medical attention if symptoms persist.

Ingestion:

Not applicable

Note to Physicians:

No data available.



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SECTION 7 : Reactivity Data

Chemical Stability:

Stable.

Conditions to Avoid:

INSTABILITY: None.

Incompatibilities with Other Materials:

MATERIALS TO AVOID: ALUMINUM: Water, oxidizing agents, acids, acid chlorides, harsh alkalis and halogenated compounds. See also "Unusual Fire and Explosion Hazards"
COBALT: Strong acids, oxidizing agents, hydrazinium nitrate, ammonium nitrate + heat, 1,3,4,7 tetramethylisindol, bromine pentafluoride.

Hazardous Polymerization:

Will not occur.

CONDITIONS TO AVOID: None.

Hazardous Decomposition Products:

ALUMINUM: Hydrogen gas

COBALT: Hydrogen gas



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SECTION 8 : Precautions For Safe Handling

Spill Cleanup Measures:

Wear appropriate respiratory and protective equipment specified in section 9-control measures. Isolate spill area and provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for proper disposal. Take care not to raise dust.

Other Precautions:

Aluminum slowly generates hydrogen and heat on contact with water. Handle and store in a dry area.

Handling:

PRECAUTIONS TO BE TAKEN IN HANDLING: None

Storage:

PRECAUTIONS TO BE TAKEN IN STORING: None

Hygiene Practices:

Implement engineering and work practice controls to reduce and maintain concentration of exposure at low levels. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air.

HAZARD LABEL INFORMATION:

Store in cool, dry area
Store in tightly sealed container
Wash thoroughly after handling

Waste Disposal:

Dispose of in accordance with local, state and federal regulations.

DOT Subpart E Labeling Requirement: DOT HAZARD LABEL: No data.



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SECTION 9 : Control Measures

Ventilation System:

Local exhaust ventilation may be necessary to control any air contaminants to within their PELs or TLVs during the use of this product. Good general ventilation is recommended.

Personal Protective Equipment

Routine Handling:

PROTECTIVE EQUIPMENT SUMMARY – HAZARD LABEL INFORMATION:

NIOSH approved respirator
Impervious gloves
Safety glasses
Clothes to prevent skin contact

Hand Protection Description:

PROTECTIVE GLOVES: Rubber or vinyl disposable gloves.

Eye/Face Protection:

Safety glasses.

Protective Clothing/Body Protection:

Protective gear suitable to prevent contamination.

Respiratory Protection:

(SPECIFY TYPE): NIOSH approved respirator.

Exposure Limits:

RECOMMENDED EXPOSURE LIMITS: See "Section 2"

Control of Substances Hazardous to Health Regulations
EH40 Occupational Exposure Limits
Maximum Exposure Limit: Not Established
Occupational Exposure Standard: 10 mg/m3 Total Inhalable Dust
5 mg/m3 Respirable Dust

WORK/HYGIENIC/MAINTENANCE PRACTICES:

Implement engineering and work practice controls to reduce and maintain concentration of exposure at low levels. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air.



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SECTION 10 : Other Information

Aluminum:

Section 302 (Yes/No): No

Section 304:

SEC.304 RQ: No

Section 313 Toxic Release Form (Yes/No): Yes

Cobalt:

Section 302 (Yes/No): No

Section 304:

SEC.304 RQ: No

Section 313 Toxic Release Form (Yes/No): Yes

HMIS:

Health Hazard: 2

Fire Hazard: 0

Reactivity: 0

Personal Protection: F

MSDS Revision Date:

06/25/2008

SUPERCEDES: 06/27/2006

SUPERCEDES: 09/07/2004

Disclaimer:

Kurt J. Lesker Company ("KJLC") believes the information contained in this Material Safety Data Sheet is accurate as of the "Date of Last Revision" specified. The information relates only to typical properties of the product. Do not use the information for product performance or specification purposes. The information is for use by technically skilled persons at their own risk. KJLC MAKES NO EXPRESS OR IMPLIED WARRANTY OF ANY KIND, INCLUDING WITHOUT LIMITATION WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO THE PRODUCT OR THE INFORMATION. The information may not be valid for product use in combination with any other product or material or in any process. KJLC expressly disclaims any liability arising from any use of the product or any reliance on the information. Do not treat the information (a) as assurance that use of the product will not infringe patent or other rights or (b) as a license or grant of patent or other property rights. "KJLC" means KJLC and each of its subsidiaries.

Control of Substances Hazardous to Health Regulations
EH40 Occupational Exposure Limits
Maximum Exposure Limit: Not Established
Occupational Exposure Standard: 10 mg/m³ Total Inhalable Dust
5 mg/m³ Respirable Dust

HMIS HAZARD RATINGS:

Health: *

OTHER HAZARD RATINGS:

Health: 0

Flammability: 0

Reactivity: 0

Special Hazard: B

Minimal: 0

Slight: 1

Moderate: 2

Serious: 3

Extreme: 4

Abbreviations used:

NA=Not Applicable

NE: Not Established

ADDENDUM : Other Client Information

Notes:

, EJ TALCO2A2+

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