

MSDS Name: KJL185

Manufacturer Name: Kurt J. Lesker Company

Components:	
:	Aluminum Metal, Pieces
Ti Powder :	Titanium metal, powder and pieces (>75 microns)

KJLC Code: **EJTAL30T11A4**

Kurt J. Lesker Company

Aluminum Metal, Pieces



SECTION 1 : Chemical Product and Company Identification

MSDS Name: Aluminum Metal, Pieces

Manufacturer Name: Kurt J. Lesker Company

Address:

P.O. Box 10
1925 Route 51
Clairton, PA 15025

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

Other Phone: US National Poison Hotline: (800) 222-1222

Manufacturer MSDS Revision Date:

06/25/2008
Supersedes: 06/22/2006

Synonyms:

Aluminum metal; alumina fibre; aluminum dehydrated; aluminum flake; A 00; A 95; A 99; A 995; A 999; AA 1099; AA 1199; AD 1; AD1M; ADO; AE; Alaun (German); Aluminum 27; Aluminum A00.

Chemical Family: Metal

Chemical Formula: Al

Molecular Weight: 26.98

UPC/EAN: 231-072-3

DOT HAZARD LABEL: No data.

Product Codes:



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

SARA Section 302: No

SARA Section 313: Yes

Other Exposure Guidelines:

5 mg/m3 resp

SEC. 304 RQ: No

Chemical Name	CAS#	Percent	
See SECTION 10-Other Information	Not Available	0.0-100.0%	

RTECS:

Not Applicable

OSHA PEL TWA: No data.

ACGIH TLV TWA: No data.

SARA Section 302: No

SARA Section 313: No

Other Exposure Guidelines:

No data.

SEC. 304 RQ: No



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SECTION 3 : Physical And Chemical Characteristics

Physical State/Appearance:

Metallic powder

Color:

Silver-white

Odor:

No odor

Physical State:

Solid

pH:

No data.

Vapor Pressure:

(VS. AIR OR MM HG): 1 mm at 1284.0 deg C (2343.2 deg F)

Vapor Density:

(VS. AIR = 1): No data.

Boiling Point:

2467.00 deg C (4472.6 deg F)

Melting Point:

660.30 deg C (1220.5 deg F)

Solubility In Water:

insoluble

Specific Gravity:

(WATER = 1): 2.702

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:

Dust is moderately flammable/explosive by heat, flame or chemical reaction with powerful oxidizers. May ignite on contact with vapors of AsCl₃, SCl₂, Se₂Cl₂, PCl₅; 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).



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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

Potential Health Effects:

(ACUTE): 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)

Eye Contact:

Acute: Dust and powder may cause abrasive irritation.

Skin Contact:

Acute: No acute health effects recorded.

Inhalation:

Acute: Inhalation of dust or powder may cause irritation to the respiratory system.

Ingestion:

Acute: No acute health effects recorded.

Chronic Health Effects:

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)

Chronic Eye Contact:

No chronic health effects recorded.

Chronic Skin Contact:

No chronic health effects recorded.

Chronic Inhalation:

Inhalation of finely divided powder may cause pulmonary fibrosis.

Chronic Ingestion:

May be implicated in Alzheimer's disease.

Carcinogenicity:

No data available.

OSHA Designation: Regulated: No

NTP Designation: No

IARC Designation: Monographs: No

Target Organs:

No target organs recorded.

Signs/Symptoms:

INHALATION: May cause a red, dry, throat and coughing.

INGESTION: No acute or chronic health effects recorded.

SKIN: No acute or chronic health effects recorded.

EYE: May cause red, itching and watering.

Other Potential Health Effects:

No data available.

Aggravation of Pre-Existing Conditions:

Pre-existing respiratory disorders.

RECOMMENDED EXPOSURE LIMITS: See "Section 2"

Applies to All Ingredients:

Acute Health Effects:

LD50: No toxicity data recorded

Inhalation Effects:

LC50: No toxicity data recorded



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: Water, oxidizing agents, acids, acid chlorides, harsh alkalis and halogenated compounds. See also "Unusual Fire and Explosion Hazards"

Hazardous Polymerization:

Will not occur

CONDITIONS TO AVOID: None

Hazardous Decomposition Products:

Hydrogen gas



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SECTION 8 : Precautions For Safe Handling

Personal Precautions:

Wear appropriate respiratory and protective equipment specified in section 9—control measures.

Spill Cleanup 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:

None

Storage:

None

Hygiene Practices:

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.

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: 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:

See "Section 2"

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.



SECTION 10 : Other Information

Aluminum:

Section 302 (Yes/No): No

Section 304 CERCLA RQ: No

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

See SECTION 10–Other Information:

Section 302 (Yes/No): No

Section 304 CERCLA RQ: No

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

MSDS Revision Date:

06/25/2008

Supersedes: 06/22/2006

Disclaimer:

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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

Abbreviations used:
NA=Not Applicable
NE: Not Established

ADDENDUM : Other Client Information

Notes:

, EJAL50BAR, EJT60614.5ST, EJT60616.8KT, EJT6061654KT, EJT6061654ST, EJT6061654VT, EJT6061VTDS, EJ TAL108X3MM, EJ TAL10X4X10, EJ TAL1100530, EJ TAL13CMNK3, EJ TAL13COM, EJ TAL13COM3, EJ TAL13COMK, EJ TAL13COMK3, EJ TAL13COMR, EJ TAL13COMR3, EJ TAL13VTI, EJ TAL13VTI3, EJ TAL13VTIK, EJ TAL13VTIK3, EJ TAL13VTIKT, EJ TAL13VTIR, EJ TAL15.800, EJ TAL20530*, EJ TAL253.536, EJ TAL25530+, EJ TAL25PYLNA, EJ TAL25PYLNB, EJ TAL4.555KT, EJ TAL4011.75, EJ TAL402A3MM,

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Kurt J. Lesker Company

Titanium metal, powder and pieces (>75 microns)

Manufacturer MSDS Number: Ti Powder



SECTION 1 : Chemical Product and Company Identification

MSDS Name: Titanium metal, powder and pieces (>75 microns)

Manufacturer Name: Kurt J. Lesker Company

Address:

P.O. Box 10
1925 Route 51
Clairton, PA 15025

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

Other Phone: US National Poison Hotline: (800)222-1222

Manufacturer MSDS Creation Date:

06/22/2006

Manufacturer MSDS Revision Date:

06/30/2008

Synonyms:

Titanium metal; contimet 30; C.P. titanium; IMI 115; NCI-CO4251; oremet; titanium alloy.

Chemical Family: Metal

Chemical Formula: Ti

Molecular Weight: 47.88

DOT HAZARD LABEL

No data.

Product Codes:

Ti Powder



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SECTION 2 : Hazardous Ingredients/Identity Information

Chemical Name	CAS#	% Weight	
Titanium	7440-32-6	0.0 -100.0 %	
Chemical Name See SECTION 16-Other Information	CAS# NA	% Weight 0.0 -100.0 %	



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SECTION 3 : Physical And Chemical Characteristics

Physical State/Appearance:

Dark gray powder or silver-gray pieces, no odor.

Physical State:

[] Gas , [] Liquid , [X] Solid

pH:

No data.

Vapor Pressure:

0 at 20.0 C (68.0 F) (VS. AIR OR MM HG)

Vapor Density:

No data. (VS. AIR = 1)

Boiling Point:

3287.00 deg C (5948.6 deg F)

Melting Point:

1650.00 deg C (3002.0 deg F) to 1670.00 deg C (3038.0 deg F)

Solubility:

OTHER SOLUBILITY NOTES: decomposes steam at 700–800C

Solubility In Water:

insoluble

Specific Gravity:

4.5 at 20.0 C (68.0 F) (WATER = 1)

Density:

No data.

Evaporation Point:

No data. (VS BUTYL ACETATE=1)

Percent Volatile:

N.A.

FlashPoint:

N.A.

Auto Ignition Temp:

1200.00 deg C (2192.0 deg F)

Upper Flammable Explosive Limit:

NA

Lower Flammable Explosive Limit:

NA



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SECTION 4 : Fire And Explosion Hazards

Flash Point:

N.A.

Flash Point Method:

No data.

Upper Flammable or Explosive Limit: NA

Lower Flammable or Explosive Limit: NA

Auto Ignition Temperature: 1200.00 deg C (2192.0 deg F)

Extinguishing Media:

AUTOIGNITION POINT: 1200C for solid metal in air 250C for powder in air Class D, inert gas (argon or helium) or other metal extinguishing agent.

Unsuitable Media:

Water or carbon dioxide. Water applied to hot titanium may evolve hydrogen, causing an explosion.

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:

May burn in an atmosphere of carbon dioxide, nitrogen or air. May react violently with BrF₃; CuO; PbO; (Ni + KClO₃), metaloxy salts; halocarbons; halogens; CO₂ metal carbonates; Al; AgF; O₂; nitryl fluoride; HNO₃; O₂; KClO₃; KNO₃; KMnO₄; steam at 704F; trichloroethylene; trichlorotri-fluoroethane. Titanium, in the absence of moisture, burns slowly, but evolves much heat. Water applied to hot titanium may evolve hydrogen, causing an explosion.



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SECTION 5 : Health Hazards

Applies to All Ingredients:

Route of Exposure:

Inhalation? Yes , Skin? No , Eyes? No , Ingestion? No , Other: N

Potential Health Effects:

Eye Contact:

May cause abrasive irritation.

Skin Contact:

May cause abrasive irritation.

Inhalation:

Prolonged inhalation may cause mild irritation to the lungs and respiratory tract.

Ingestion:

Relatively non-toxic, poorly absorbed from the alimentary tract.

Chronic Eye Contact:a

No chronic health effects recorded.

Chronic Skin Contact:

No chronic health effects recorded.

Chronic Inhalation:

May cause fibrotic lung changes.

Chronic Ingestion:

No chronic health effects recorded.

Carcinogenicity:

NTP? No , IARC Monographs? No , OSHA Regulated? No

Target Organs:

No target organs recorded.

Signs/Symptoms:

INHALATION: Prolonged exposure may cause a red, dry, throat, coughing and shortness of breath. INGESTION: No acute or chronic health effects recorded. SKIN: May cause redness and itching. EYE: May cause redness, itching and watering.

Other Potential Health Effects:

CARCINOGENICITY/OTHER INFORMATION: Questionable carcinogen with experimental tumorigenic data. Experimental reproductive effects. orl-rat TDLO: 158 mg/kg multi:Reproductive effects Intramuscular-rat TDLO: 114 mg/kg/77W-l: Equivocal Tumorigenic Agent Intramuscular-rat TD: 360 mg/kg/69W-l: Equivocal Tumorigenic Agent

Aggravation of Pre-Existing Conditions:

None recorded.

See "Section II" LD 50/LC 50: See "Carcinogenicity/Other Information"



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SECTION 6 : Emergency And First Aid Procedures

Physical Health Hazard:

HEALTH HAZARDS (ACUTE AND CHRONIC): TITANIUM: This material is generally considered to be physiologically inert. There are no reported cases in the literature where titanium as such has caused human intoxication. The dusts of titanium or most titanium compounds such as titanium oxide may be placed in the nuisance category. (Sax, Dangerous Properties of Industrial Materials, eighth edition)

Eye Contact:

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

Skin Contact:

Remove contaminated clothing; brush material off skin; wash affected area with mild soap and water; seek medical attention if symptoms persist.

Inhalation:

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

Ingestion:

Give 1-2 glasses of milk or water and induce vomiting; Never induce vomiting or give anything by mouth to an unconscious person.

Note to Physicians:
No data available.



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SECTION 7 : Reactivity Data

Chemical Stability:

Unstable [] Stable [X]

Conditions to Avoid:

CONDITIONS TO AVOID – INSTABILITY: Dispersion in air; CONDITIONS TO AVOID – HAZARDOUS POLYMERIZATION: None

Incompatibilities with Other Materials:

TITANIUM: Air, BrF₃, CuO, PbO, (Ni + KClO₃), metaloxy salts, halocarbons, halogens. CO₂, metal carbonates, Al, AgF, O₂ nitryl fluoride, HNO₃, KClO₃, KNO₃, KMnO₄, steam (>700C), trichloroethylene, trichlorotri-fluoroethane, oxygen, carbon black, carbon dioxide and nitrogen, sodium chlorate. Water applied to hot titanium may evolve hydrogen, causing an explosion.

Hazardous Polymerization:

Will occur [] Will not occur [X]

Hazardous Decomposition Products:

Metal fumes and titanium oxides



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SECTION 8 : Precautions For Safe Handling

Spill Cleanup Measures:

Wear appropriate respiratory and protective equipment specified in section VIII–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:

None

HAZARD LABEL INFORMATION:

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

Handling:

Do not disperse powder or dust in air.

Storage:

None

Hygiene Practices:

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.

Waste Disposal:

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

DOT:

DOT HAZARD LABEL: No data.

DOT UN Number:

UN2546



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SECTION 9 : Control Measures

Ventilation System:

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels. Powders under 74 microns are flammable.

Hand Protection Description:

Rubber gloves

Eye/Face Protection:

Safety glasses

Protective Clothing/Body Protection:

Protective gear suitable to prevent contamination

Respiratory Protection:

NIOSH approved respirator

NIOSH approved respirator Impervious gloves Safety glasses

Ingredient Guidelines

Ingredient: See SECTION 16–Other Information

Guideline Information: ACGIH TLV: No data.; OSHA PEL: No data.; OTHER LIMITS: No data.

Ingredient: Titanium

Guideline Information: ACGIH TLV: NE; OSHA PEL: NE; OTHER LIMITS: NE



SECTION 10 : Other Information

Titanium:

Section 302:

No

Section 304:

No

Section 313 Toxic Release Form:

No

See SECTION 16–Other Information:

Section 302:

No

Section 304:

No

Section 313 Toxic Release Form:

No

HMIS:

Health Hazard: 1

Fire Hazard: 0

Reactivity: 0

Personal Protection: E

MSDS Revision Date:

06/30/2008

Disclaimer:

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Comment:

SUPERCEDES REVISION 11/10/2004 Control of Substances Hazardous to Health Regulations EH40 Occupational Exposure Limits Maximum Exposure Limit: NE Occupational Exposure Standard: NE . OTHER HAZARD RATINGS: Health: 1 Flammability: 0 Reactivity: 0 Special Hazard: E Minimal:0 Slight: 1 Moderate:2 Serious: 3 Extreme: 4

Abbreviations used

NA=Not Applicable NE: Not Established