



Safety Data Sheet

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product Identifier:

Product Name: Chromium Aluminium Alloy

Synonyms: Aluminium Chromium, Chromium aluminium, Aluminium--Chromium (1/1), 70Cr30Al (70% Chromium)

1.2 Relevant identified uses of the substance or mixture and uses advised against:

Relevant identified use(s): Loose material as casted at varying weights and dimensions. Material is sold and distributed to downstream processors who remelt the superalloys into products used within various downstream applications.

1.3 Details of the supplier of the safety data sheet:

Manufacturer: Ross & Catherall.
Forge Lane,
Killamarsh,
Sheffield,
S21 1BA
UK

Telephone (General): +44 (0) 114 248 6404 ext 345

Telephone (Direct Dial): +44 (0) 7990 442080

1.4 Emergency telephone number:

Manufacturer: +44 (0) 114 248 6404

Section 2: Hazards Identification

EU/EEC:

According to: Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 2022/586]

2.1 Classification of the substance or mixture:

CLP: Skin Sensitisation 1 - H317
Eye Irritation 2 – H319
Respiratory Sensitisation 1 - H334
Flammable Solid – H228
In contact with Water Releases Flammable Gas – H261
Suspected of causing Genetic Defects – H341
Suspected of Causing Cancer – H351
May cause damage to organs – H371

2.2 Label Elements:

CLP: DANGER



Hazard statements

H317 - May cause an allergic skin reaction
H319 – Causes Serious Eye Irritation
H261 - In contact with Water Releases Flammable Gas

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
 H335 - May cause respiratory irritation
 H341 - Suspected of causing Genetic Defects
 H351 - Suspected of causing cancer.
 H371 – May cause damage to organs

Precautionary statements

Prevention

P201 - Obtain special instructions before use.
 P202 - Do not handle until all safety precautions have been read and understood.
 P260 - Do not breathe dust or fume.
 P264 - Wash thoroughly after handling.
 P270 - Do not eat, drink or smoke when using this product.
 P271 - Use only outdoors or in a well-ventilated area.
 P272 - Contaminated work clothing should not be allowed out of the workplace.
 P280 - Wear protective gloves/protective clothing/eye protection/face protection.
 P284 - In case of inadequate ventilation wear respiratory protection.

Response

P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P312 - Call Medical Services/doctor if you feel unwell.
 P342+P311 - If experiencing respiratory symptoms: Call Medical services.
 P302+P352 - IF ON SKIN: Wash with plenty of water.
 P321 - Specific treatment, see supplemental first aid information.
 P362+P364 - Take off contaminated clothing and wash it before reuse.
 P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
 P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P337+P317 - If eye irritation persists: Get medical advice/attention.
 P308+P313 - IF exposed or concerned: Get medical advice/attention.
 P314 - Get medical advice/attention if you feel unwell.

Storage/Disposal

P405 - Store locked up.
 P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

2.3 Other Hazards

CLP:

May form combustible dust concentrations in air.
 Heating above the melting point releases metallic oxides which may cause metal fume fever by inhalation.
 The symptoms are shivering, fever, malaise, and muscular pain.
 According to Regulation (EC) No. 1272/2008 (CLP) this material is considered hazardous.

United Kingdom (UK):

According to: Regulation (UK) No 2015/21 (CLP)/REACH 2021/904 Excluding Northern Ireland (NI)

Note: Under the Post Brexit Northern Ireland Protocol, EU CLP and REACH regulations apply to NI.

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 According to Regulation (UK) No. 2015/21 (CLP) this material is considered hazardous.

**United Nations (UN) GHS Revision 9E:
 According to: UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS):
 Ninth Revised Edition**

2.1

Classification of the substance or mixture:

UN GHS: Skin Sensitisation 1 - H317
 Eye Irritation 2 – H319
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2.2

Label Elements:

UN GHS: **DANGER**



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2.3 Other Hazards
UN GHS:

May form combustible dust concentrations in air.
 Heating above the melting point releases metallic oxides which may cause metal fume fever by inhalation.
 The symptoms are shivering, fever, malaise, and muscular pain.
 According to the Globally Harmonized System for Classification and Labelling (GHS) this product is considered hazardous.

United States (US):
According to: OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture:

OSHA HCS 2012: Skin Sensitisation 1 - H317
 Eye Irritation 2 – H319
 Respiratory Sensitisation 1 - H334
 Flammable Solid – H228
 In contact with Water Releases Flammable Gas – H261
 Suspected of causing Genetic Defects – H341
 Suspected of Causing Cancer – H351
 May cause damage to organs – H371
 Combustible Dust
 Hazards Not Otherwise Classified - Health Hazards - Metal fume fever

2.2 Label Elements:

OSHA HCS 2012: **DANGER**



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 Not Coded - May form combustible dust concentrations in air.

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	Response	<p>P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.</p> <p>P312 - Call Medical Services/doctor if you feel unwell.</p> <p>P342+P311 - If experiencing respiratory symptoms: Call Medical services.</p> <p>P302+P352 - IF ON SKIN: Wash with plenty of water.</p> <p>P321 - Specific treatment, see supplemental first aid information.</p> <p>P362+P364 - Take off contaminated clothing and wash it before reuse.</p> <p>P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.</p> <p>P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P337+P317 - If eye irritation persists: Get medical advice/attention.</p> <p>P308+P313 - IF exposed or concerned: Get medical advice/attention.</p> <p>P314 - Get medical advice/attention if you feel unwell.</p>
	Storage/Disposal	<p>P405 - Store locked up.</p> <p>P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.</p>
2.3	Other Hazards OSHA HCS 2012:	<p>Heating above the melting point releases metallic oxides which may cause metal fume fever by inhalation. The symptoms are shivering, fever, malaise and muscular pain.</p> <p>Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.</p>

Section 3: Composition/Information on Ingredients					
3.1 Substances:					
Material does not meet the criteria of a substance.					
3.2 Mixtures:					
Composition					
Chemical Name	Identifiers	%	LD50/LC50	Classifications According to Regulation/Directive	Comments
Aluminium	CAS: 7429-90-5 EC Number: 231-072-3	29% TO 32%	NDA	<p>EU CLP: Annex VI, Table 3.1: Flam. Sol. 1, H228; Water -react. 2, H261</p> <p>UK CLP: Flam. Sol. 1, H228; Water -react. 2, H261</p> <p>UN GHS Revision 9: Flam. Sol. 1; Water-react. 2; STOT RE 1 (Lungs / Inhl);</p> <p>OSHA HCS 2012: Flam. Sol. 1; Water-react. 2; Comb. Dust; STOT RE 1 (Lungs / Inhl)</p>	NDA
Chromium	CAS: 7440-47-3 EC Number: 231-157-5	68% TO 71%	NDA	<p>EU CLP: Flam. Sol. 1, H228; Water-react. 2, H261; Carc. 2, H351; STOT SE 2 (not specified)</p> <p>UK CLP: Flam. Sol. 1, H228; Water-react. 2, H261; Carc. 2, H351; STOT SE 2 (not specified)</p> <p>UN GHS Revision 9: Flam. Sol. 1, H228; Water-react. 2, H261; Carc. 2, H351; STOT SE 2 (not specified)</p> <p>OSHA HCS 2012: Flam. Sol. 1, H228; Water-react. 2, H261; Carc. 2, H351; STOT SE 2 (not specified) Comb. Dust</p>	NDA

See Section 16 for full text of H-statements.

Section 4: First Aid Measures**4.1 Description of first aid measures:**

Inhalation:	Move victim to fresh air. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. If signs/symptoms continue, get medical attention.
Skin:	Wash skin with soap and water. If skin irritation occurs: Get medical advice/attention.
Eye:	In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. If eye irritation persists: Get medical advice/attention.
Ingestion:	Rinse mouth. Do not give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

4.2 Most important symptoms and effects, both acute and delayed:

Refer to Section 11 - Toxicological Information.

4.3 Indication of any immediate medical attention and special treatment needed:

Notes to Medical Personnel:	All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.
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Section 5: Firefighting Measures**5.1 Extinguishing media:**

Suitable Extinguishing Media: Use dry powder extinguishing agent.

Unsuitable Extinguishing Media: Do not use water on molten metal which will react violently, or areas contaminated with fine dust.

5.2 Special hazards arising from the substance or mixture:

Unusual Fire and Explosion Hazards Metal powder dispersed in air may cause fire and explosion. 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. Molten metal can ignite combustibles. Molten metal will react violently with water. In contact with water releases flammable gas

Hazardous Combustion Products No data available.

5.3 Advice for firefighters:

Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

Section 6: Accidental Release Measures**6.1 Personal precautions, protective equipment and emergency procedures:**

Personal Precautions: Ventilate enclosed areas. Do not walk-through spilled material. Wear appropriate personal protective equipment, avoid direct contact. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Emergency Procedures: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. Keep unauthorised personnel away.

6.2 Environmental precautions:

Avoid run off to waterways and sewers.

6.3 Methods and material for containment and cleaning up:

Containment/Clean-up Measures:

Avoid generating dust.
 Solid material should be picked up and recycled.
 Where possible allow molten material to solidify naturally.
 Residue from cutting or grinding should be swept or vacuumed and placed in suitable containers.
 Use clean non sparking tools to collect material.
 Dust deposits 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 (i.e., clearing dust surfaces with compressed air).

6.4 Reference to other sections:

Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

Section 7: Handling and Storage

7.1 Precautions for safe handling:

Handling:

Under normal conditions, exposure to cast material presents few health hazards in itself. Thermal cutting and melting of cast material may produce fumes and dust containing the component elements which may present potentially significant health hazards. Use only with adequate ventilation. Minimise 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 precautions, such as electrical grounding and bonding, or inert atmospheres. Other workers have experienced a sensitised respiratory disease characterised by cough, wheezing and shortness of breath where upon removal from the environment, the symptoms subside. Wear appropriate personal protective equipment, avoid direct contact. Do not breathe dust or fumes. Avoid contact with skin, eyes, and clothing. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

7.2 Conditions for safe storage, including any incompatibilities:

Storage:

Store in a well-ventilated place. Keep container tightly closed. Keep away from incompatible materials.

7.3 Specific end use(s):

Refer to Section 1.2 - Relevant identified uses.

Section 8: Exposure Controls/Personal Protection:

8.1 Control parameters:

Exposure Limits/Guidelines

	Result	ACGIH	Europe	NIOSH	OSHA	United Kingdom
Chromium (7440-47-3)	TWAs	0.5 mg/m ³ TWA	2 mg/m ³ TWA	0.5 mg/m ³ TWA	1 mg/m ³ TWA	0.5 mg/m ³ TWA 0.025 mg/m ³ (process generated) EH40
	STELs	Not established	Not established	Not established	Not established	Not Stated EH40

Aluminium (7429-90-5)	STELs	Not established	Not established	Not established	Not established	Not Stated EH 40
	TWAs	1 mg/m3 TWA (respirable fraction)	Not established	10 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable dust)	15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)	10 mg/m3 TWA (inhalable dust); 4 mg/m3 TWA (respirable dust) EH40
	STELs	Not established	Not established	Not established	Not established	0.6 mg/m3 STEL (calculated, fume); 2 mg/m3 STEL (dust and mist) EH40

8.2 Exposure controls:

Engineering Measures/Controls

Use a local exhaust when cutting, grinding, welding, or melting. It is recommended that 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 not leakage from the equipment). Use only appropriately classified electrical equipment.

Personal Protective Equipment Respiratory

For limited exposure, use P95 or N95 respirator. For prolonged exposure use an air-purifying respirator with high efficiency particulate air (HEPA) filters. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirators if exposure limits are exceeded or symptoms are experienced.

Eye/Face

Wear safety goggles.

Skin/Body

Wear appropriate gloves. Wear long sleeves and/or protective coveralls.

Environmental Exposure Controls

Follow best practice for site management and disposal of waste. Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

Key to abbreviations:

ACGIH = American Conference of Governmental Industrial Hygiene
 NIOSH = National Institute of Occupational Safety and Health
 OSHA = Occupational Safety and Health Administration
 STEL = Short Term Exposure Limits are based on 15-minute exposures
 TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

Section 9: Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties:

Material Description

Physical Form	Solid	Appearance/Description	Silver grey solid with no odour.
Colour	Silver grey.	Odour	Odourless
Odour Threshold	Data lacking		

General Properties

Boiling Point	Data lacking	Melting Point/Freezing Point	2723 °F (1495 °C)
Decomposition Temperature	Data lacking	pH	Data lacking
Specific Gravity/Relative Density	= 8 Water=1	Water Solubility	Negligible < 0.1 %
Viscosity	Data lacking	Explosive Properties	Data lacking
Oxidizing Properties:	Data lacking		

Volatility

Vapour Pressure	Data lacking	Vapour Density	Data lacking
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SDS 238 – Chromium Aluminium Alloy

Evaporation Rate	Data lacking	Volatiles (Wt.)	0 %
Volatiles (Vol.)	0 %		
Flammability			
Flash Point	Data lacking	UEL	Data lacking
LEL	Data lacking	Autoignition	Data lacking
Flammability (solid, gas)	Data lacking		
Environmental			
Octanol/Water Partition coefficient	Data lacking		
9.2 Other Information:			
No additional physical and chemical parameters noted.			

Section 10: Stability and Reactivity:	
10.1 Reactivity:	No dangerous reaction known under conditions of normal use.
10.2 Chemical stability	Stable under normal temperatures and pressures.
10.3 Possibility of hazardous reactions	Hazardous polymerization will not occur. Powder/Dust forms may constitute a fire hazard depending on particle size.
10.4 Conditions to avoid	Do not allow wet or damp metal to be added to molten metal. Molten metal will react violently with water. Avoid contact with oxidising agents. Avoid generating dust
10.5 Incompatible materials	Cast material are stable at ordinary temperature; however, caution should be taken with acids, bases, and oxidizers. Molten metal will react violently with water.
10.6 Hazardous decomposition products	Under normal conditions, exposure to cast material presents few health hazards in itself. Thermal cutting and melting of cast material may produce fumes containing the component elements and breathing those fumes may present potentially significant health hazards.

Section 11: Toxicological Information:		
11.1 Information on toxicological effects		
Components		
Aluminium (29% TO 32%)	7429-90-5	Multi-dose Toxicity: Inhalation-Man TLo • 4 mg/m ³ 1 Year(s)-Intermittent; Lungs, Thorax, or Respiration: Cough ; Lungs, Thorax, or Respiration: Dyspnoea ; Nutritional and Gross Metabolic: Gross Metabolite Changes: Weight loss or decreased weight gain ; Inhalation-Rat TLo • 206 mg/m ³ 5 Hour(s) 30 Day(s)-Intermittent; Lungs, Thorax, or Respiration: Fibrosis (interstitial) ; Endocrine: Hypoglycaemia ; Blood: Changes in serum composition (e.g., TP, bilirubin cholesterol)
Chromium (68% TO 71%)	7440-47-3	Acute Toxicity: Ingestion/Oral-Rat LD50 • 750 mg/kg; Blood: Changes in serum composition (e.g., TP, bilirubin cholesterol) ; Biochemical: Enzyme inhibition, induction, or change in blood or tissue levels: Transaminases ; Ingestion/Oral-Child TDLo • 77 mg/kg; behavioural: Irritability ; Gastrointestinal: Nausea or vomiting ; Blood: Normocytic anaemia . Multi-dose Toxicity: Ingestion/Oral-Rat TDLo • 105 mg/kg 5 Week(s)-Continuous; Liver: Tumours; Tumorigenic: Active as anti-cancer agent; Tumorigenic: Protects against induction of experimental tumours

GHS Properties	Classification
Acute toxicity	EU/CLP • Data lacking UK CLP • Data lacking UN GHS 9 • Data lacking OSHA HCS 2012 • Data lacking
Skin corrosion/Irritation	EU/CLP • Data lacking UK CLP • Data lacking UN GHS 9 • Data lacking OSHA HCS 2012 • Data lacking

Serious eye damage/Irritation	EU/CLP • Eye Irritation 2 UK CLP • Eye Irritation 2 UN GHS 9 • Eye Irritation 2 OSHA HCS 2012 • Eye Irritation 2
Skin sensitisation	EU/CLP • Skin Sensitiser 1 UK CLP • Skin Sensitiser 1 UN GHS 9 • Skin Sensitiser 1 OSHA HCS 2012 • Skin Sensitiser 1
Respiratory sensitisation	EU/CLP • Respiratory Sensitiser 1 UK CLP • Respiratory Sensitiser 1 UN GHS 9 • Respiratory Sensitiser 1 OSHA HCS 2012 • Respiratory Sensitiser 1
Aspiration Hazard	EU/CLP • Data lacking UK CLP • Data lacking UN GHS 9 • Data lacking OSHA HCS 2012 • Data lacking
Carcinogenicity	EU/CLP • Carcinogenicity 2; Suspected of causing cancer UK CLP • Carcinogenicity 2; Suspected of causing cancer UN GHS 9 • Carcinogenicity 2 OSHA HCS 2012 • Carcinogenicity 2
Germ Cell Mutagenicity	EU/CLP • Data lacking UK CLP • Data lacking UN GHS 9 • Data lacking OSHA HCS 2012 • Data lacking
Toxicity for Reproduction	EU/CLP • Muta. 2 (Inhalation, Oral) UK CLP • Muta. 2 (Inhalation, Oral) UN GHS 9 • Muta. 2 (Inhalation, Oral) OSHA HCS 2012 • Muta. 2 (Inhalation, Oral)
STOT-SE	EU/CLP • May cause damage to organs UK CLP • May cause damage to organs UN GHS 9 • May cause damage to organs OSHA HCS 2012 • May cause damage to organs
STOT-RE	EU/CLP • Data lacking UK CLP • Data lacking UN GHS 9 • Data lacking OSHA HCS 2012 • Data lacking

Potential Health Effects

Inhalation

Acute (Immediate)

Exposure to dust may cause irritation. Processes such as cutting, grinding, crushing, or impact may result in generation of excessive amounts of airborne dusts in the workplace. Nuisance dust may affect the lungs but reactions are typically reversible. Cobalt toxicity also results in a progressive diffuse, interstitial pneumonia with a non-productive cough, dyspnoea on exertion, interstitial fibrosis and cell damage. Other workers have experienced a sensitised respiratory disease characterized by cough, wheezing and shortness of breath where upon removal from the environment, the symptoms subside.

Chronic (Delayed)

Repeated or prolonged exposure to various chromium compounds has been reported to result in ulceration and perforation of the nasal septum, irritation of the throat and lower respiratory tract, less commonly in gastrointestinal disturbances, blood changes, pulmonary sensitization, pulmonary pneumoconiosis or fibrosis, and rarely liver effects. These effects have not been reported from exposure to the metal.

Skin

Acute (Immediate)

Chromium causes a dermatitis of the allergic sensitivity type at points in friction. Contact allergy to nickel is very common in human beings.

Chronic (Delayed)

Repeated or prolonged exposure to various chromium compounds has been reported to cause various types of dermatitis, including eczema, "chrome holes", sensitization, and, in contact with damaged skin, kidney damage. These effects have not been reported from exposure to the metal.

Eye	Acute (Immediate)	Exposure to dust may cause mechanical irritation. Excessive concentrations of nuisance dust in the workplace may reduce visibility and may cause unpleasant deposits in eyes.
	Chronic (Delayed)	Repeated or prolonged exposure to some chromium compounds may cause conjunctivitis and lacrimation. These effects have not been reported from exposure to the metal.
Ingestion	Acute (Immediate)	Chromium metal is poorly absorbed by the intestinal tract. Absorption of sufficient amounts of some chromium compounds may result in dizziness, intense thirst, abdominal pain, vomiting, shock, oliguria, or anuria, and uraemia, which may be fatal.
	Chronic (Delayed)	No data available.
Other	Chronic (Delayed)	No data available.
	Carcinogenic Effects	Repeated and prolonged exposure to fumes and dust created in processing this product may cause cancer.

Carcinogenic Effects			
	CAS	IARC	NTP
Chromium	7440-47-3	Group 2B-Possible Carcinogen	Reasonably Anticipated to be Human Carcinogen
Reproductive Effects	No data available.		
11.2 Other information:	Heating above the melting point releases metallic oxides which may cause metal fume fever by inhalation. The symptoms are shivering, fever, malaise and muscular pain.		
Key to abbreviations	LD = Lethal Dose TC = Toxic Concentration TD = Toxic Dose		

Section 12: Ecological Information:		
12.1 Toxicity:		
Components		
Aluminium (29% TO 32%)	7429-90-5	Multi-dose Toxicity: Inhalation-Man TCLo • 4 mg/m ³ 1 Year(s)-Intermittent; Lungs, Thorax, or Respiration: Cough ; Lungs, Thorax, or Respiration: Dyspnoea ; Nutritional and Gross Metabolic: Gross Metabolite Changes: Weight loss or decreased weight gain ; Inhalation-Rat TCLo • 206 mg/m ³ 5 Hour(s) 30 Day(s)-Intermittent; Lungs, Thorax, or Respiration: Fibrosis (interstitial) ; Endocrine: Hypoglycaemia ; Blood: Changes in serum composition (e.g., TP, bilirubin cholesterol)
Chromium (68% TO 71%)	7440-48-4	Aquatic Toxicity-Fish: 14,300 µg/L 96 hour(s) LC50 (Mortality) Common, mirror, colored, carp (Cyprinus carpio) Aquatic Toxicity- Invertebrate: 2,000 µg/L 0-5 hour(s) LETH (Mortality) Copepod (Tisbe holothurian) Algal Toxicity: 3,000-5,000 µg/L NR hour(s) (Population Growth) Blue-green algae (Synechocystis aquatilis) Phytotoxicity: 9,900 µg/L 32 week(s) EC50 (Biomass) Water-milfoil (Myriophyllum spicatum) Bioconcentration: 20-40 µg/L NR week(s) BCF (Residue) Common bay mussel, blue mussel (Mytilus edulis) 100 µg/L
The product is not expected to present an environmental hazard.		
12.2 Persistence and degradability	Material data lacking.	
12.3 Bio accumulative potential	20-40 µg/L NR week(s) BCF (Residue) Common bay mussel, blue mussel (Mytilus edulis) 100 µg/L	
12.4 Mobility in Soil	Material data lacking.	

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12.5 Results of PBT and vPvB assessment No PBT and vPvB assessment has been conducted.

12.6 Other adverse effects No studies have been found.

Section 13: Disposal Considerations:

13.1 Waste treatment methods

Product waste Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14: Transport Information:

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	Not Applicable	Not Regulated	Not Applicable	Not Applicable	NDA
TDG	Not Applicable	Not Regulated	Not Applicable	Not Applicable	NDA
IMO/IMDG	Not Applicable	Not Regulated	Not Applicable	Not Applicable	NDA
IATA/ICAO	Not Applicable	Not Regulated	Not Applicable	Not Applicable	NDA
14.6 Special precautions for user	None specified.				
14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Data lacking.				

Section 15: Regulatory Information:

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications Acute, Chronic, Pressure (Sudden Release of)

Inventory

Component	CAS	UK MCL	UK SVHCs	EU EINECS	EU ELNICS	TSCA
Aluminium	7429-90-5	Yes	No	Yes	No	Yes
Chromium	7440-47-3	Yes	No	Yes	No	Yes

United States

Labour

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

Chromium	7440-47-3	Not Listed
Aluminium	7429-90-5	Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

Chromium	7440-47-3	Not Listed
Aluminium	7429-90-5	Not Listed

Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

Chromium	7440-47-3	Not Listed
Aluminium	7429-90-5	Not Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

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Chromium	7440-47-3	5000 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm); 2270 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm)
Aluminium	7429-90-5	Not Listed
U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities		
Chromium	7440-47-3	Not Listed
Aluminium	7429-90-5	Not Listed
U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs		
Chromium	7440-47-3	Not Listed
Aluminium	7429-90-5	Not Listed
U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs		
Chromium	7440-47-3	Not Listed
Aluminium	7429-90-5	Not Listed
U.S. - CERCLA/SARA - Section 313 - Emission Reporting		
Chromium	7440-47-3	1.0 % de minimis concentration
Aluminium	7429-90-5	1.0 % de minimis concentration (dust or fume only)
U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing		
Chromium	7440-47-3	Not Listed
Aluminium	7429-90-5	Not Listed
United States - California Environment		
U.S. - California - Proposition 65 - Carcinogens List		
Chromium	7440-47-3	Not Listed
Aluminium	7429-90-5	Not Listed
U.S. - California - Proposition 65 - Developmental Toxicity		
Chromium	7440-47-3	Not Listed
Aluminium	7429-90-5	Not Listed
U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)		
Chromium	7440-47-3	Not Listed
Aluminium	7429-90-5	Not Listed
U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)		
Chromium	7440-47-3	Not Listed
Aluminium	7429-90-5	Not Listed
U.S. - California - Proposition 65 - Reproductive Toxicity - Female		
Chromium	7440-47-3	Not Listed
Aluminium	7429-90-5	Not Listed
U.S. - California - Proposition 65 - Reproductive Toxicity - Male		
Chromium	7440-47-3	Not Listed
Aluminium	7429-90-5	Not Listed

15.2 Incompatible materials	No Chemical Safety Assessment has been carried out.
15.3 Hazardous decomposition products	WARNING: This product contains a chemical known to the State of California to cause cancer.

Section 16: Other Information:

Relevant Phrases (code & full text)

- H228 - Flammable solid
- H261 - In contact with water releases flammable gas
- H302 - Harmful if swallowed
- H319 - Causes serious eye irritation
- H361 - Suspected of damaging fertility or the unborn child.
- H400 - Very toxic to aquatic life
- H410 - Very toxic to aquatic life with long lasting effects

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Disclaimer/Statement of Liability

The information herein is given in good faith but no warranty, expressed or implied, is made.

Key to abbreviations

NDA = No Data Available