



Aluminium Alloy (Pyrat)

**Intals S.p.a.**

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EN

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## Safety Data Sheet

### 1. Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product name **Aluminium alloy**  
Chemical name and synonyms **Pyrat - Termoresistente**

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

##### Identified uses

Manufacture of metal alloys. Manufacture of basic metals.  
Production of various types of metal products, electrical and electronics, furniture. Production of vehicles, machinery and mechanical appliances.  
recycling

##### Uses advised against

none

#### 1.3. Details of the supplier of the safety data sheet

Name **Intals S.p.a.**  
Full address **Viale Lombardia 3**  
District and Country **27020, Parona (PV) Italia**

e-mail address of the competent person  
responsible for the Safety Data Sheet **d. renati@intals.it**

Product distribution by **m.vedani@intals.it**

#### 1.4. Emergency telephone number

For urgent inquiries refer to **+39 340 9636382**

### 2. Hazards identification.

#### 2.1. Classification of the substance or mixture.

The product is classified as hazardous pursuant to the provisions set forth in EC Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of EC Regulation 1907/2006 and subsequent amendments.

Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Carcinogenicity, category 2	H351	Suspected of causing cancer.
Specific target organ toxicity - repeated exposure, category 2	H373	May cause damage to organs through prolonged or repeated exposure.
Skin sensitization, category 1	H317	May cause an allergic skin reaction.

The full wording of hazard (H) phrases is given in section 16 of the sheet.



## 2.2. Label elements.

Labelling unnecessary in accordance with Regulation (CE) 1272/2008 - Annex I - 1.3.4.

Hazard pictograms:



Signal words:

Warning

Hazard statements:

<b>H351</b>	Suspected of causing cancer.
<b>H373</b>	May cause damage to organs through prolonged or repeated exposure.
<b>H317</b>	May cause an allergic skin reaction.

Precautionary statements:

<b>P201</b>	Obtain special instructions before use.
<b>P261</b>	Avoid breathing dust/fume/ gas/mist/vapours/spray.
<b>P280</b>	Wear protective gloves / protective clothing / eye protection / face protection.
<b>P308+P313</b>	IF exposed or concerned: get medical advice.
<b>P333 + P313</b>	If skin irritation or rash occurs: Get medical advice/attention.
<b>P363</b>	Wash contaminated clothing before reuse.

Additional statements for safety data sheet

<b>P281</b>	Use personal protective equipment as required.
<b>P302+P352</b>	IF ON SKIN: wash with plenty of water / . . .

**Contains:** Nickel

## 2.3. Other hazards.

Fine particles from processing can be highly flammable. Molten metal and particulate matter are very reactive in contact with water, acids, alkalis, strong oxidizers, halogenated compounds and some metal oxides.

**3. Composition/information on ingredients.****3.1. Substances.**

Information not relevant.

**3.2. Mixtures.****Contains:**

Identification.	Conc. %.	Classification 67/548/CEE.	Classification 1272/2008 (CLP).
<b>NICKEL</b>			
CAS. 7440-02-0 CE. 231-111-4 INDEX. 028-002-00-7	1,9 – 2,1	Carc. Cat. 3 R40, T R48/23, Xi R43, Nota S,7	Carc. 2 H351, STOT RE 1 H372, Skin Sens. 1 H317, Nota S,7

**Substances registered under REACH Regulation provisions:**

Identification	Conc. %.	Classification 67/548/CEE.	Classification 1272/2008 (CLP).
<b>ALUMINIUM</b>			
CAS. 7429-90-5 CE. 231-072-3 INDEX. - Nr. Reg. 01-2119529243-45-0127	➤ 93,47	Not classified	Not classified
<b>SILICON</b>			
CAS. 7440-21-3 CE. 231-130-8 INDEX. - Nr. Reg. 01-2119480401-47-0127	< 0,7	Not classified	Not classified

**Other substances in the alloys that are not registered under REACH Regulation provisions**

Identification	Conc. %.	Classification 67/548/CEE.	Classification 1272/2008 (CLP).
<b>COPPER</b>			
CAS. 7440-50-8 CE. 231-159-6 INDEX. -	< 0,7	Not classified	Not classified
<b>IRON</b>			
CAS. 7439-89-6 CE. 231-096-4 INDEX. -	< 0,5	Not classified	Not classified
<b>MANGANESE</b>			
CAS. 7439-96-5 CE. 231-105-1 INDEX. -	1,9 – 2,1	Not classified	Not classified
<b>ZINC</b>			
CAS. 7440-66-6 CE. 231-175-3 INDEX. -	< 0,1	Not classified	Not classified
<b>TIN</b>			
CAS. 7440-31-5 CE. 231-141-8 INDEX. -	< 0,05	Not classified	Not classified
<b>MAGNESIUM</b>			
CAS. 7439-95-4 CE. 231-104-6 INDEX. -	< 0,03	Not classified	Not classified
<b>CHROMIUM</b>			
CAS. 7440-47-3 CE. 231-157-5 INDEX. -	< 0,05	Not classified	Not classified

**TITANIUM**CAS. 7440-32-6  
CE. 231-142-3  
INDEX. -

0,1 – 0.2

Not classified

Not classified

**LEAD**CAS. 7439-92-1  
CE. 231-100-4  
INDEX. -

&lt; 0,05

Not classified

Not classified

T+ = Very Toxic(T+), T = Toxic(T), Xn = Harmful(Xn), C = Corrosive(C), Xi = Irritant(Xi), O = Oxidizing(O), E = Explosive(E), F+ = Extremely Flammable(F+), F = Highly Flammable(F), N = Dangerous for the Environment(N)

The full wording of the Risk (R) and hazard (H) phrases is given in section 16 of the sheet.

**4. First aid measures.****4.1. Description of first aid measures.**

EYES: If particles comes into contact with eyes, treatment for mechanical irritation or injury may be required, irrigate copiously with clean, fresh water for at least 15 minutes. Seek medical advice.

SKIN: Immediately wash with plenty of water. Remove all contaminated clothing. Obtain immediate medical attention. Wash contaminated clothing separately before using them again.

INHALATION: Remove to open air. If breathing is irregular or stopped, administer artificial respiration. Obtain immediate medical attention.

INGESTION: Obtain immediate medical attention. Induce vomiting only if indicated by the doctor. Give nothing by mouth to an unconscious person.

**4.2. Most important symptoms and effects, both acute and delayed.**

For symptoms and effects caused by the contained substances see chap. 11.

**4.3. Indication of any immediate medical attention and special treatment needed.**

Follow doctor's orders.

**5. Firefighting measures.****5.1. Extinguishing media.**

SUITABLE EXTINGUISHING MEDIA

Use class D extinguishing agents on dust, particulate or molten metal

EXTINGUISHING MEDIA WHICH SHALL NOT BE USED FOR SAFETY REASONS

Water, foam, halogenated extinguishing agents

**5.2. Special hazards arising from the substance or mixture.**

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Do not breathe combustion products (metal oxide fumes).

**5.3. Advice for firefighters.**

GENERAL INFORMATION

In shape of ingots, the product is not flammable and has no risk of explosion. Fine dust from the product may be ignited and represent a risk of explosion. Burning dust from this product will produce noxious smoke containing metal oxides.

Molten aluminum can explode on contact with water or moisture, and can react violently with rust, some metal oxides and nitrates.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Hardhat with visor, fireproof clothing (fireproof jacket and trousers with straps around arms, legs and waist), work gloves (fireproof, cut proof and dielectric), a depressurised mask with facemask covering the whole of the operator's face or a self-respirator (self-protector) in the event of large quantities of fume.

**6. Accidental release measures.****6.1. Personal precautions, protective equipment and emergency procedures.**

Eliminate all sources of ignition (cigarettes, flames, sparks, etc..) from the area in which the loss occurred. In case of dust released into the air respiratory protection equipment is required. Stop leak if without risk. Do not handle damaged containers or spilled material before wearing appropriate protective equipment. Keep away unprotected persons. For information on risks for the environment and health, respiratory protection, ventilation and individual protective measures, refer to the other sections of this safety data sheet.

**6.2. Environmental precautions.**

The product must not penetrate the sewer system, surface water, ground water and neighbouring areas.

**6.3. Methods and material for containment and cleaning up.**

Use mechanical tools to collect leaked product and eliminate the remainder using jets of water. Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

**6.4. Reference to other sections.**

Any information on personal protection and disposal is given in sections 8 and 13.

**7. Handling and storage.**

**7.1. Precautions for safe handling.**

Do not eat, drink and / or smoke during handling and use.

The ingots may have sharp edges and surface defects.

Keep the workplace clean and avoid any accumulation of aluminum dust. The aluminum dispersed in fine form (powder, powder) may form explosive mixtures with air and in contact with water may release flammable gases in dangerous quantities.

Ensure good ventilation / local exhaust at the workplace in the case of operations generating dust, like cutting, grinding, polishing.

Remelt ingots needs to be kept dry and preheated before charging into liquid metal.

**7.2. Conditions for safe storage, including any incompatibilities.**

Store in a cool, well-ventilated area away from heat, open flames, sparks and other sources of ignition.

**7.3. Specific end use(s).**

Information not available.

**8. Exposure controls/personal protection.****8.1. Control parameters.**

Name	Type	Country	TWA/8h		STEL/15min		
			mg/m3	ppm	mg/m3	ppm	
ALUMINIUM METAL AND INSOLUBLE COMPOUNDS	TLV-ACGIH		1	0,9			
ALUMINUM, DUST	WEL	UK	4 (respirable) 10 (total)				
	TLV	CH	3				
	OSHA - PEL		5 (respirable) 15 (total)				
NICKEL	TLV-ACGIH		1,5				
	TLV	CH	0,5				
	WEL	UK	0,1				
	OSHA - PEL		0,015				
CHROMIUM, COMPOUNDS OF Cr(II) and Cr(III) (insoluble)	OEL	EU	2				
		IT	0,5				
	WEL	UK	0,5				
	TLV-ACGIH		0,5				
MAGNESIUM OXIDE	WEL	UK	4 (respirable) 10 (total)				
	OSHA - PEL		15 (total dust)				
SILICON, DUST	OSHA - PEL		5 (respirable) 15 (total)				
TIN AND INORGANIC TIN COMPOUNDS	OEL	EU	2				
	TLV-ACGIH		2				
ZINC OXIDE, DUST	OSHA - PEL		5 (respirable) 15 (total)				
ZINC OXIDE, FUMES	OSHA - PEL		5				
ZINC OXIDE, DUST	TLV-ACGIH		2 (respirable)	10			
COPPER	OSHA - PEL		1 (dust / mist) 0,1 (fumes)				
COPPER	TLV-ACGIH		1 (dust / mist) 0,2 (fumes)				

**Derived No Effect Levels (DNEL) and Predicted No Effect Concentration (PNEC)**

Substance name: ALUMINIUM  
CAS number: 7429-90-5  
EC number: 231-072-3

**DNELs**

	workers				consumers			
Route of exposure	Acute effects local	Acute effects systemic	Chronic effects	Chronic effects	Acute effects local	Acute effects systemic	Chronic effects	Chronic effects



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			local	systemic			local	systemic
Oral	Not required				-	-	-	3,95 mg/kg bwt/day.
Inhalation	-	-	3,72 mg/m3	-	-	-	-	-
Dermal	-	-	-	-	-	-	-	-

### PNECs

Environmental protection target	PNEC
Fresh water	No data: aquatic toxicity is unlikely
Microorganisms in sewage treatment	20 mg/L

Substance name: SILICON  
CAS number: 7440-21-3  
EC number: 231-130-8

### DNELs

	workers				consumers			
Route of exposure	Acute effects local	Acute effects systemic	Chronic effects local	Chronic effects systemic	Acute effects local	Acute effects systemic	Chronic effects local	Chronic effects systemic
Oral	Not required				-	-	-	-
Inhalation	-	-	insufficient data: testing proposal submitted	-	-	-	-	-
Dermal	-	-	-	-	-	-	-	-

### PNECs

Environmental protection target	PNEC
Water (intermittent release)	100 mg/L
Microorganisms in sewage treatment	25 mg/L

## 8.2. Exposure controls.

Observance of safety measures used in handling chemical substances.

As the use of adequate technical equipment must always take priority over personal protection equipment, make sure that the workplace is well aired through effective local aspiration or bad air vent. If such operations do not make it possible to keep the concentration of the product below the permitted workplace exposure thresholds a suitable respiratory tract protection must be used.

#### HAND PROTECTION

None required.

#### EYE PROTECTION

Wear protective airtight goggles (ref. standard EN 166). SKIN PROTECTION

None required.

#### RESPIRATORY PROTECTION

If the threshold value for one or more of the substances present in the preparation for daily exposure in the workplace or to a fraction established by the company's prevention and protection service is exceeded, wear an FFP3 (ref. standard EN 141) type half mask.

The use of breathing protection equipment, such as masks with organic vapour and dust/mist cartridges, is necessary in the absence of technical measures limiting worker exposure. The protection provided by masks is in any case limited.

#### THERMAL HAZARDS

Use appropriate personal protective equipment for handling hot metal ingots (CEN). Wear fire resistant clothes, when handling molten metal.

## 9. Physical and chemical properties.

### 9.1. Information on basic physical and chemical properties.

Appearance	Solid (massive form).
Colour	silver gray.
Odour	odourless
Odour threshold.	not perceptible.
pH.	Not available.
Melting or freezing point.	450-650 ° C
Boiling point.	Not applicable.
Distillation range.	Not available.
Flash point.	Non-flammable as a solid if not finely divided.
Evaporation Rate	Not available.
Flammability of solids and gases	Non-flammable as a solid if not finely divided.
Lower inflammability limit.	Not available.



Upper inflammability limit.	Not available.
Lower explosive limit.	Not available.
Upper explosive limit.	Not available.
Vapour pressure.	Not available.
Vapour density	Not available.
Specific gravity.	Not available.
Solubility	Not available.
Partition coefficient: n-octanol/water	Not available.
Ignition temperature.	Not available.
Decomposition temperature.	Not available.
Viscosity	Not available.
Reactive Properties	Not available.

**9.2. Other information.**

Information not available.

**10. Stability and reactivity.****10.1. Reactivity.**

There are no particular risks of reaction with other substances in normal conditions of use.

**10.2. Chemical stability.**

The product is stable in normal conditions of use and storage.

**10.3. Possibility of hazardous reactions.**

No hazardous reactions are foreseeable in normal conditions of use and storage.

**10.4. Conditions to avoid.**

Massive metal is stable and none reactive under normal conditions of use, storage and transport.  
Molten aluminium may react violently in contact with certain metal oxides and nitrates (rust etc.).  
Avoid melting wet or cold materials as molten metal may cause explosions in contact with water or wet surfaces.  
In areas with very high dust concentrations, aluminium dust may form an explosive atmosphere.

**10.5. Incompatible materials.**

Information not available.

**10.6. Hazardous decomposition products.**

In the event of thermal decomposition or fire, vapours potentially dangerous to health may be released.

**11. Toxicological information.****11.1. Information on toxicological effects.**

According to currently available data, this product has not yet produced health damages. Anyway, it must be handled carefully according to good industrial practices. This product may have slight health effects on sensitive people, by inhalation and/or cutaneous absorption and/or contact with eyes and/or ingestion.

<b>Component of the mixture:</b>	ALUMINIUM
<b>CAS number:</b>	7429-90-5
<b>EC number:</b>	231-072-3

**Toxicokinetics, metabolism and distribution:**

Oral uptake < 0.1%, nearly insoluble in lung fluids. Most absorbed aluminium is rapidly excreted through urine. Main deposit in body is in bone structure.

**Acute effects (acute toxicity, irritation and corrosivity):****Acute toxicity:**

LD50 (oral):	> 5000mg/kg bwt (rats).
LD50 (dermal):	No effect.
LD50 (inhalative):	> 2,350 mg/l (rats).

**Specific symptoms in animal tests:**

After swallowing:	None.
After skin contact:	None.
After inhalation:	None.

**Irritation/Corrosive effects:**

Irritant effects on skin:	No effect.
Irritant effect on eyes:	No effect. Aluminium particles may produce irritation due to mechanical abrasion.

**Sensitisation:**

skin sensitization	None.
respiratory sensitization	None.

**Toxicity after repeated intake (sub-acute, sub- chronic, chronic):**

Sub-acute oral Toxicity:	None – Calculated DNEL 3,95 mg/kg bwt/day.
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Sub-acute inhalative Toxicity: None, see occupational exposure limits. Calculated DNEL 3,7 mg/m3 (respirable fraction).

**CMR-effects (carcinogenic, mutagenic and reproductive effects):**

Carcinogenicity: None.  
Mutagenicity: None.  
Reproductive toxicity: None.

**Component of the mixture:** SILICON  
**CAS number:** 7440-21-3  
**EC number:** 231-130-8

**Toxicokinetics, metabolism and distribution:**

Oral uptake < 0.1%, nearly insoluble in lung fluids. Most absorbed aluminium is rapidly excreted through urine. Main deposit in body is in bone structure.

**Acute effects (acute toxicity, irritation and corrosivity):****Acute toxicity:**

LD50 (oral): > 3160 mg/kg bwt (rats).  
LD50 (dermal): > 5000mg/kg bwt (rats).  
LD50 (inhalative): Not available.

**Specific symptoms in animal tests:**

After swallowing: Not available.  
After skin contact: Not available.  
After inhalation: Not available.

**Irritation/Corrosive effects:**

Irritant effects on skin: No effect.  
Irritant effect on eyes: No effect.

**Sensitisation:**

skin sensitization: None.  
respiratory sensitization: None.

**Toxicity after repeated intake (sub-acute, sub- chronic, chronic):**

Sub-acute oral Toxicity: None.  
Sub-acute inhalative Toxicity: None.

**CMR-effects (carcinogenic, mutagenic and reproductive effects):**

Carcinogenicity: None.  
Mutagenicity: None.  
Reproductive toxicity: None.

**12. Ecological information.**

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or sewers or contaminate soil or vegetation.

No acute or chronic classification is appropriate for AlNickel alloys massive based on non- toxic results below the Ecotoxicity Reference Value (ERV). Relevant properties are similar to non- alloyed aluminium.

**12.1. Toxicity.**

Product/ingredient name	test	result	Species	Exposure
Aluminium metal shavings	Fish - OECD TG 203	>100 mg/l	Salmo trutta	pH 8
Aluminium metal shavings	Daphnia - OECD TG 202	>100mg/l	Daphnia Magna	pH 8
Aluminium metal shavings	Algae - OECD TG 201	>100mg/l	Selenastrum Capricornutum	pH 8

**12.2. Persistence and degradability.**

Persistence: Not relevant for metals.

Biodegradability: Not biodegradable.



**12.3. Bioaccumulative potential.**

Not bioaccumulative.

**12.4. Mobility in soil.**

Not mobile under normal environmental conditions, components can be leached from the soil at low pH (&lt;5.5) or high pH (&gt; 8.5).

**12.5. Results of PBT and vPvB assessment.**

Not relevant for metals

**12.6. Other adverse effects.**

None

**13. Disposal considerations.****13.1. Waste treatment methods.**

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

**14. Transport information.**

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

**15. Regulatory information.****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture.**

Seveso category. None.

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006.  
None.

Substances in Candidate List (Art. 59 REACH).  
None.

Substances subject to authorisation (Annex XIV REACH).  
None.

Healthcare controls.  
Information not available.

**15.2. Chemical safety assessment.**

A Chemical Safety Assessment (CSA) was performed for the following substances contained in the mixture (components of the alloy):

ALUMINIUM (massive form) [CAS. 7429-90-5 EC. 231-072-3]: Not classified as dangerous

SILICON (massive form) [CAS. 7440-21-3 EC. 231-130-8]: Not classified as dangerous

Since both components are not classified as hazardous and do not meet the criteria as PBT / vPvB (Annex XIII of REACH), no exposure scenario was developed for these substances in the context of the chemical safety assessment.

**16. Other information.**

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

<b>Carc. 2</b>	Carcinogenicity, category 2
<b>STOT RE 1</b>	Specific target organ toxicity - repeated exposure, category 1
<b>Skin Sens. 1</b>	Respiratory / skin sensitization, category 1
<b>H351</b>	Suspected of causing cancer <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.
<b>H372</b>	Causes damage to organs <or state all organs affected, if known> through prolonged or repeated exposure <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.
<b>H317</b>	May cause an allergic skin reaction.

Text of risk (R) phrases mentioned in section 2-3 of the sheet:

<b>R40</b>	LIMITED EVIDENCE OF A CARCINOGENIC EFFECT.
<b>R43</b>	MAY CAUSE SENSITIZATION BY SKIN CONTACT.



R48/20  
R48/23

HARMFUL: DANGER OF SERIOUS DAMAGE TO HEALTH BY PROLONGED EXPOSURE THROUGH INHALATION.  
TOXIC: DANGER OF SERIOUS DAMAGE TO HEALTH BY PROLONGED EXPOSURE THROUGH INHALATION.

#### GENERAL BIBLIOGRAPHY

1. Directive 1999/45/EC and following amendments
2. Directive 67/548/EEC and following amendments and adjustments
3. Regulation (EC) 1907/2006 (REACH) of the European Parliament and subsequent amendments and supplements
4. Regulation (EC) 1272/2008 (CLP) of the European Parliament and subsequent amendments and supplements
5. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
6. Regulation (EC) 453/2010 of the European Parliament
7. The Merck Index. - 10th Edition
8. Handling Chemical Safety
9. Niosh - Registry of Toxic Effects of Chemical Substances
10. INRS - Fiche Toxicologique (toxicological sheet)
11. Patty - Industrial Hygiene and Toxicology
12. N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
13. ECHA Dissemination site: <http://apps.echa.europa.eu/registered/registered-sub.aspx>

#### Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product .

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.