

# SAFETY DATA SHEET

## Aluminium alloys - AlMgSi, 6000 series except 6011, 6012, 6013

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

Date issued	10.01.2011
Product name	Aluminium alloys - AlMgSi, 6000 series except 6011, 6012, 6013
Synonyms	EN AW: 6xxx series except: 6011, 6012, 6013
Product group	Extrusion ingots.
Use of the substance/preparation	Production of extruded profiles.

#### Producer

Company name	Hydro Aluminium AS
Office address	Drammensveien 264
Postcode	0240
Place name	Oslo
Country	Norway
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Prepared by	BIS Production Partner, Consultancy, HMS
Emergency telephone	Norwegian Poisons Information :+47 22 59 13 00

### 2. Hazards identification

Description of hazard	<p>The preparation is not classified as dangerous according to Directive 1999/45/EC and its amendments.</p> <p>Not hazarding as solid ingot. Fine particles from processing may be easily ignitable. Molten metal and fine particles are highly reactive in contact with water, acids, alkalis, strong oxidisers, halogenated compounds and certain metal oxides. Heating or welding of the product may produce toxic fumes of metal oxides.</p>
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### 3. Composition/information on ingredients

Component name	Identification	Classification	Contents
Aluminium (metal)	CAS no.: 7429-90-5 EC no.: 231-072-3		90 - 97 %
Silicon	CAS no.: 7440-21-3 EC no.: 231-130-8		0 - 2 %
Magnesium (metal)	CAS no.: 7439-95-4 EC no.: 231-104-6		0 - 1,5 %
Titanium	CAS no.: 7440-32-6 EC no.: 231-142-3		0 - 0,2 %
Iron	CAS no.: 7439-89-6 EC no.: 231-096-4		0,04 - 1 %
Manganese	CAS no.: 7439-96-5 EC no.: 231-105-1		0 - 1 %
Zinc	CAS no.: 7440-66-6 EC no.: 231-158-0		0 - 0,5 %

Chromium (Cr)	CAS no.: 7440-47-3 EC no.: 231-157-5	0 - 0,5 %
Copper	CAS no.: 7440-50-8 EC no.: 231-159-6	0 - 1,5 %
Vanadium	CAS no.: 7440-62-2 EC no.: 231-171-1	0 - 0,5 %
Column headings	CAS no. = Chemical Abstracts Service; EU (Einecs or Elincs number) = European inventory of Existing Commercial Chemical Substances; Ingredient name = Name as specified in the substance list (substances that are not included in the substance list must be translated, if possible). Contents given in: %, %wt/wt, %vol/wt, %vol/vol, mg/m <sup>3</sup> , ppb, ppm, weight%, vol%	
HH/HF/HE	T+ = Very toxic, T = Toxic, C = Corrosive, Xn = Harmful, Xi = Irritating, E = Explosive, O = Oxidizing, F+ = Extremely flammable, F = Very flammable, N = Environmental hazard	
Component comments	Other impurities usually < 0,15 %. See section 16 for the full text of the R Phrases declared above.	

#### 4. First-aid measures

General	Normally not relevant for ingots.
Inhalation	In case of discomfort, move to ventilated area. If necessary, seek medical advice
Skin contact	In case of contact with hot or molten metal, flush with plenty of water. If severe, seek medical advice.
Eye contact	If particles or dust got in the eyes, flush with plenty of water. Seek medical advice if discomfort persists.

#### 5. Fire-fighting measures

Suitable extinguishing media	In case of aluminium fires or presence of liquid aluminium use a dry-powder extinguisher.
Improper extinguishing media	Do not use water or halogenated media.
Fire and explosion hazards	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. Fumes from hot metal can form toxic gases with oxides from the metal.

#### 6. Accidental release measures

Methods for cleaning	Collect mechanically. Avoid dust formation and inhalation of dust. Recycle collected material if possible. (See also section 13).
Other instructions	The product contains small amounts of copper. Copper can form environmental hazardous substances. Care must be taken so the product or dust from the product, is not disposed of in nature.

#### 7. Handling and storage

Handling	Extrusion ingots may have sharp edges (continuous cast) and sharp surface defects. Add only completely dry and/or preheated solid metal to a melt in order to avoid the risk of explosion.
Storage	Ingots shall be stored dry and free from oil and dust. Pay attention to stack stability, if bundles are put on each other.

#### 8. Exposure controls/personal protection

##### Exposure limit values

Component name	Identification	Value	Year
Aluminium, dust (OSHA, PEL)	CAS no.: 7429-90-5	8 h.: 5 mg/m <sup>3</sup> (resp.)	2008

	EC no.: 231-072-3	8 h.: 15 mg/m <sup>3</sup> (total)	
Aluminium, metal (ACGIH, TLV)	CAS no.: 7429-90-5 EC no.: 231-072-3	8 h.: 1 mg/m <sup>3</sup> (resp)	2008
Silicon, dust (OSHA, PEL)	CAS no.: 7440-21-3 EC no.: 231-130-8	8 h.: 5 mg/m <sup>3</sup> (resp.) 8 h.: 15 mg/m <sup>3</sup> (total)	2008
Magnesium oxide, dust (ACGIH, TLV)	CAS no.: 1309-48-4 EC no.: 215-171-9	8 h.: 10 mg/m <sup>3</sup> (total)	2008
Iron oxide, fume or respirable dust (as Fe) (OSHA, PEL)	CAS no.: 1309-37-1 EC no.: 215-168-2	8 h.: 1 mg/m <sup>3</sup>	2008
Iron oxide (ACGIH, TLV)	CAS no.: 1309-37-1 EC no.: 215-168-2	8 h.: 5 mg/m <sup>3</sup> (resp)	2008
Manganese and inorganic compounds (as Mn) (OSHA, PEL)	CAS no.: 7439-96-5 EC no.: 213-105-1	15 min.: 5 mg/m <sup>3</sup> (short)	2008
Manganese (Mn and compounds) (ACGIH, TLV)	CAS no.: 7439-96-5 EC no.: 231-105-1	8 h.: 0,2 mg/m <sup>3</sup> (fume)	2008
Zinc oxide, dust (OSHA, PEL)	CAS no.: 1314-13-2 EC no.: 215-222-5	8 h.: 5 mg/m <sup>3</sup> (resp.) 8 h.: 15 mg/m <sup>3</sup> (total)	2008
Zinc oxide, fume (OSHA, PEL)	CAS no.: 1314-13-2 EC no.: 215-222-5	8 h.: 5 mg/m <sup>3</sup>	2008
Zink Oxide, dust (ACGHI, TLV)	CAS no.: 1314-13-2 EC no.: 215-222-5	8 h.: 2 mg/m <sup>3</sup> (resp.) 15 min.: 10 mg/m <sup>3</sup> (resp.)	2008
Chromium (OSHA , PEL)	CAS no.: 7440-47-3 EC no.: 231-157-5	8 h.: 1 mg/m <sup>3</sup>	
Chromium (ACGIH, TLV)	CAS no.: 7440-47-3 EC no.: 231-157-5	8 h.: 0,5 mg/m <sup>3</sup> (TLV)	
Copper (as Cu) (OSHA, PEL)	CAS no.: 7440-50-8 EC no.: 231-159-6	8 h.: 1 mg/m <sup>3</sup> (dust/mist) 8 h.: 0,1 15 min.: mg/m <sup>3</sup> (fume)	2008
Copper (ACGIH, TLV)	CAS no.: 7440-50-8 EC no.: 231-159-6	8 h.: 0,2 mg/m <sup>3</sup> (fume)	2008
Vanadium	CAS no.: 7440-62-2 EC no.: 231-171-1	8 h.: 0,05 mg/m <sup>3</sup>	2003

## Exposure controls

Recommended monitoring procedures	Monitor the level of air pollution at the work place. Risk assesment of the use of the product, may result in different use of protective equipment than recommended below.
Other Information about threshold limit values	<p>Exposure Limit Values - Abbreviations:</p> <p>OSHA: Occupational Safety and Health Administration (USA)</p> <p>PEL: Permissible Exposure Limit</p> <p>ACGIH: American Conference of Governmental Industrial Hygienists</p> <p>TLV: Treshold Limit Value</p> <p>C: Cancer</p> <p>A: Allergy</p> <p>National occupational exposure limits must be taken into account.</p> <p>All protective equipment should be labelled with CE. All protective equipment should be tested according to relevant CEN-standards.</p>
Occupational exposure controls	Eye wash facilities should be available. Provide good ventilation. Avoid handling, such as welding, that will produce metal dust.

Respiratory protection	Wear respiratory protection with particle filter P2 in dusty conditions. When cutting, welding, grinding, melting etc, use fresh air supplied respiratory protection.
Hand protection	Wear leather gloves or the like when cutting, welding, grinding, melting etc.
Eye protection	Wear dust proof goggles in dusty conditions. Wear welder's goggles when welding, and tight fitting goggles when cutting, grinding or melting.
Skin protection (other than of the hands)	When molten metal is handled use appropriate personal protective equipment (ref.: AA Guidelines for handling molten aluminium)

## 9. Physical and chemical properties

Physical state	Extrusion ingot. Weight may vary with the length and diameter.
Odour	None
Colour	Grey
Solubility description	Insoluble in water
Specific gravity	<b>Value:</b> 2,68 g/cm <sup>3</sup> <b>Comments:</b> (Al)
Melting point/melting range	<b>Value:</b> 560-660 °C
Boiling point	<b>Value:</b> 2450 °C <b>Comments:</b> (Aluminium)
Vapour pressure	<b>Value:</b> 1 mmHg <b>Comments:</b> (applies to Al)

## 10. Stability and reactivity

Materials to avoid	Strong acids or bases. Molten aluminium may explode when getting in contact with water. When in form of particles, aluminium may explode in presence of halogenated acids, halogenated solvents, bromates, iodates or ammonium nitrate. Aluminium particles in contact with copper, lead or iron oxides can react violently and exothermic provided a source of ignition or intense heat.
Hazardous decomposition products	Flammable hydrogen gas may be released when in contact with strong acids or bases. Hydrogen is explosive in concentrations exceeding 4 vol-%. Otherwise this product shows little reaction with other chemicals.
Stability	Massive metal is stable and non reactive under normal condition of use, storage and transport.

## 11. Toxicological information

### Other information regarding health hazards

General	A dust free product does not imply any health risk. Cutting, welding, grinding etc. will generate dust, smoke or particles containing the components of this product. Heating above the melting point will produce metal vapours that can be oxidized to toxic metal oxides, or the vapour might condensate to aerosol containing respirable particles. Inhalation of metal aerosols and fumes might imply a health risk.  Contact with hot metal can give severe burns.
Inhalation	Metal dust/fumes may irritate respiratory system. Overexposure to dust or fumes may give chronic health effects (shortness of breath, cough, loss of lungfunction). Inhalation of fumes may give metal fever.
Skin contact	Metal dust/fumes may provide skin irritation.
Eye contact	Dust irritates eyes.
Ingestion	Dust/particles/vapours may irritate mucous membranes.
Other Information	The product contains small amounts of chromium. Metal fumes of chromium VI compounds can cause cancer and allergy.

## 12. Ecological information

**Components' toxicological data****Other ecological information**

Mobility	Aluminium is not mobile in the environment, unless it comes in contact with an aqueous environment with a pH below 5.5 or above 8.5
Environmental details, conclusion	Contains small amounts of copper that can form environmental hazardous substances. Avoid outlet of metal dust, or metal in the environment.

**13. Disposal considerations**

EWC waste code	06 04 05
NORSAS	7091 (Norway)
Product classified as hazardous waste	No
Specify the appropriate methods of disposal	Collect mechanically and place in suitable container. Dispose of at approved waste receiving station. Recycle if possible.
Other Information	Information of wastenumber and EWC-code are only intended as a guide. The user have to decide the final wastegroup numbers and EWC-codes based on the actual use of the product.

**14. Transport information**

Dangerous goods ICAO/IATA	<b>Status:</b> No
Other applicable information.	Not classified as dangerous goods according to ADR, RID, IMDG or IATA.

**15. Regulatory information**

R phrases	Not subject to classification.
References (laws/regulations)	Compilation of Safety Data Sheet: EC Regulation no. 1907/2006 of European Parliament and of the Council of 18. Dec. 2006 (REACH). Classification and labelling of the product: EU Council Directive 67/548/EEC (substances), Annex I and 1999/45/EC (preparations). Transport classification according to Transport regulations: ADR/RID, IMDG, IATA. OSHA/ACGIH: Occupational Exposure Limit Values European waste catalogue and European Waste List. Norwegian Waste Regulations.
Comments	The preparation is not classified as dangerous according to Directive 1999/45/EC and its amendments.
No duty to declare owing to	Non hazardous product

**16. Other information**

Sources of key data used to compile the safety data sheet	Information from the manufacturer.
Information which has been added, deleted or revised	First edition in English
Supplier's notes	The safety data sheet has been approved in accordance with the regulations in force. BIS Production Partner is not responsible for any errors or deficiencies in the information received from the manufacturer/ supplier. The manufacturer/ supplier mentioned in section 1 is legally responsible for the contents of the safety data sheet.
Responsible for safety data sheet	Hydro Aluminium AS