

# Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH)



## Nickel-aluminium alloy 50/50% Ni/Al, for synthesis, powder

article number: **0663**  
Version: **2.0 en**  
Replaces version of: 2017-08-28  
Version: (1)

date of compilation: 2017-08-28  
Revision: 2022-04-28

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

Identification of the substance	<b>Nickel-aluminium alloy</b> 50/50% Ni/Al, for synthesis, powder
Article number	0663
Registration number (REACH)	C, not relevant (mixture), It is not required to list the identified uses because the substance is not subject to registration according to REACH (< 1 t/a).
CAS number	12635-29-9

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

Relevant identified uses:	Laboratory chemical Laboratory and analytical use
Uses advised against:	Do not use for products which come into contact with foodstuffs. Do not use for private purposes (household).

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

Carl Roth GmbH + Co KG  
Schoemperlenstr. 3-5  
D-76185 Karlsruhe  
Germany

**Telephone:**+49 (0) 721 - 56 06 0  
**Telefax:** +49 (0) 721 - 56 06 149  
**e-mail:** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)  
**Website:** [www.carlroth.de](http://www.carlroth.de)

Competent person responsible for the safety data sheet: :Department Health, Safety and Environment

**e-mail (competent person):** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

#### 1.4 Emergency telephone number

Name	Street	Postal code/city	Telephone	Website
National Poisons Information Centre Beaumont Hospital	Beaumont Road	Dublin 9	01 809 2166	<a href="https://www.poisons.ie/">https://www.poisons.ie/</a>

# Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH)



## Nickel-aluminium alloy 50/50% Ni/Al, for synthesis, powder

article number: 0663

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification according to Regulation (EC) No 1272/2008 (CLP)

Section	Hazard class	Cat-egory	Hazard class and category	Hazard statement
2.12	Substance and mixture which, in contact with water, emits flammable gas	3	Water-react. 3	H261
3.4S	Skin sensitisation	1	Skin Sens. 1	H317
3.6	Carcinogenicity	2	Carc. 2	H351
3.9	Specific target organ toxicity - repeated exposure	1	STOT RE 1	H372
4.1C	Hazardous to the aquatic environment - chronic hazard	3	Aquatic Chronic 3	H412

For full text of abbreviations: see SECTION 16

##### The most important adverse physicochemical, human health and environmental effects

Delayed or immediate effects can be expected after short or long-term exposure. In contact with water releases flammable gases which may ignite spontaneously. Spillage and fire water can cause pollution of watercourses.

#### 2.2 Label elements

##### Labelling according to Regulation (EC) No 1272/2008 (CLP)

##### Signal word

**Danger**

##### Pictograms

GHS02, GHS07,  
GHS08



##### Hazard statements

H261	In contact with water releases flammable gases
H317	May cause an allergic skin reaction
H351	Suspected of causing cancer
H372	Causes damage to organs (respiratory system, skin) through prolonged or repeated exposure
H412	Harmful to aquatic life with long lasting effects

##### Precautionary statements

##### **Precautionary statements - prevention**

P223	Do not allow contact with water
P260	Do not breathe dust
P280	Wear protective gloves/eye protection

##### **Precautionary statements - response**

P308+P313	IF exposed or concerned: Get medical advice/attention
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For professional users only

# Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH)



## Nickel-aluminium alloy 50/50% Ni/Al, for synthesis, powder

article number: 0663

**Hazardous ingredients for labelling:**

Nickel powder

**Labelling of packages where the contents do not exceed 125 ml**

Signal word: **Danger**

Symbol(s)



H317 May cause an allergic skin reaction.  
H351 Suspected of causing cancer.  
H372 Causes damage to organs (respiratory system, skin) through prolonged or repeated exposure.  
H412 Harmful to aquatic life with long lasting effects.

P260 Do not breathe dust.  
P280 Wear protective gloves/eye protection.  
P308+P313 IF exposed or concerned: Get medical advice/attention.

contains: Nickel powder

### 2.3 Other hazards

#### Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

not relevant (mixture)

REACH Reg. No

C

### 3.2 Mixtures

#### Description of the mixture

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes
Aluminium powder (pyrophoric)	CAS No 7429-90-5  EC No 231-072-3  Index No 013-001-00-6	50	Pyr. Sol. 1 / H250 Water-react. 2 / H261		GHS-HC T(a)
Nickel powder	CAS No 7440-02-0  EC No 231-111-4  Index No 028-002-01-4	50	Skin Sens. 1 / H317 Carc. 2 / H351 STOT RE 1 / H372 Aquatic Chronic 3 / H412	 	GHS-HC IARC: 2B

#### Notes

GHS-HC: Harmonised classification (the classification of the substance corresponds to the entry in the list according to 1272/2008/EC, Annex VI)

IARC: IARC group 2B: possibly carcinogenic to humans (International Agency for Research on Cancer)

2B:

T(a): This substance is marketed in a form which has the physical properties as indicated

For full text of abbreviations: see SECTION 16

# Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH)



**Nickel-aluminium alloy 50/50% Ni/Al, for synthesis, powder**

article number: **0663**

## SECTION 4: First aid measures

### 4.1 Description of first aid measures



#### General notes

Take off contaminated clothing.

#### Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following skin contact

Rinse skin with water/shower. After contact with skin, wash immediately with plenty of water. In case of skin reactions, consult a physician.

#### Following eye contact

Rinse cautiously with water for several minutes. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following ingestion

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

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

Allergic reactions

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

none

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media



#### Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings  
dry extinguishing powder, D-powder, dry sand

#### Unsuitable extinguishing media

water

### 5.2 Special hazards arising from the substance or mixture

Product may release hydrogen gas. Increased storage temperatures will accelerate this process. Water-reactive (in contact with water releases flammable gases).

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Do not allow firefighting water to enter drains or water courses. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

# Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH)



Nickel-aluminium alloy 50/50% Ni/Al, for synthesis, powder

article number: 0663

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures



#### For non-emergency personnel

Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Do not breathe dust.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

### 6.3 Methods and material for containment and cleaning up

#### Advice on how to contain a spill

Covering of drains. Take up mechanically.

#### Advice on how to clean up a spill

Take up mechanically. Control of dust. Take up carefully when dry.

#### Other information relating to spills and releases

Place in appropriate containers for disposal.

### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Avoid exposure. Avoid dust formation.

#### Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs. When using do not smoke.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in a dry place.

#### Incompatible substances or mixtures

Observe hints for combined storage. Do not allow contact with water.

#### Evaporative conditions

Keep container tightly closed and in a well-ventilated place.

#### Consideration of other advice:

#### Specific designs for storage rooms or vessels

Recommended storage temperature: 15 – 25 °C

### 7.3 Specific end use(s)

No information available.

# Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH)



## Nickel-aluminium alloy 50/50% Ni/Al, for synthesis, powder

article number: 0663

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

##### National limit values

##### Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Identifier	TWA [mg/m <sup>3</sup> ]	STEL [mg/m <sup>3</sup> ]	Ceiling-C [mg/m <sup>3</sup> ]	Notation	Source
IE	aluminium	7429-90-5	OELV	1			r	S.I. No. 619 of 2001
IE	nickel	7440-02-0	OELV	0,5				S.I. No. 619 of 2001

##### Notation

Ceiling-C Ceiling value is a limit value above which exposure should not occur

r Respirable fraction

STEL Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

TWA Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

##### Relevant DNELs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Nickel powder	7440-02-0	DNEL	0,05 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects
Nickel powder	7440-02-0	DNEL	0,05 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - local effects
Nickel powder	7440-02-0	DNEL	11,9 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	acute - local effects

##### Relevant PNECs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
Nickel powder	7440-02-0	PNEC	7,1 µg/l	aquatic organisms	freshwater	short-term (single instance)
Nickel powder	7440-02-0	PNEC	8,6 µg/l	aquatic organisms	marine water	short-term (single instance)
Nickel powder	7440-02-0	PNEC	0,33 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Nickel powder	7440-02-0	PNEC	109 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Nickel powder	7440-02-0	PNEC	109 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Nickel powder	7440-02-0	PNEC	29,9 mg/kg	terrestrial organisms	soil	short-term (single instance)

# Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH)



## Nickel-aluminium alloy 50/50% Ni/Al, for synthesis, powder

article number: 0663

### 8.2 Exposure controls

#### Individual protection measures (personal protective equipment)

##### Eye/face protection



Use safety goggle with side protection.

##### Skin protection



##### • hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

##### • type of material

NBR (Nitrile rubber)

##### • material thickness

>0,11 mm

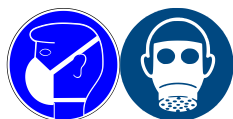
##### • breakthrough times of the glove material

>480 minutes (permeation: level 6)

##### • other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

##### Respiratory protection



Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P2 (filters at least 94 % of airborne particles, colour code: White).

##### Environmental exposure controls

Keep away from drains, surface and ground water.

# Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH)



## Nickel-aluminium alloy 50/50% Ni/Al, for synthesis, powder

article number: 0663

### SECTION 9: Physical and chemical properties

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

Physical state	solid
Form	powder, crystalline
Colour	grey - black
Odour	odourless
Melting point/freezing point	1.460 °C
Boiling point or initial boiling point and boiling range	not determined
Flammability	mixture which, in contact with water, emits flammable gases (in accordance with GHS criteria)
Lower and upper explosion limit	0 vol% (LEL) - 0 vol% (UEL)
Flash point	not applicable
Auto-ignition temperature	not determined
Decomposition temperature	not relevant
pH (value)	not applicable
Kinematic viscosity	not relevant
<u>Solubility(ies)</u>	
Water solubility	not determined
<u>Partition coefficient</u>	
Partition coefficient n-octanol/water (log value):	this information is not available
Vapour pressure	not determined
<u>Density and/or relative density</u>	
Density	4,3 g/cm <sup>3</sup> at 20 °C
Relative vapour density	information on this property is not available
Bulk density	~2.850 kg/m <sup>3</sup>
Particle characteristics	No data available.
<u>Other safety parameters</u>	
Oxidising properties	none

#### 9.2 Other information

Information with regard to physical hazard classes:



# Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH)



## Nickel-aluminium alloy 50/50% Ni/Al, for synthesis, powder

article number: **0663**

Pyrophoric solids

### 9.2.1.1 Risk of ignition 0.1

Stable at room temperature for prolonged periods of time (days)

Other safety characteristics:

There is no additional information.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

The mixture contains reactive substance(s). Reactivity with water.

### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

### 10.3 Possibility of hazardous reactions

**Violent reaction with:** strong oxidiser, Water, Alkali hydroxide (caustic alkali), Acids

### 10.4 Conditions to avoid

Protect from moisture.

### 10.5 Incompatible materials

There is no additional information.

#### Release of flammable materials with

Water

### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Test data are not available for the complete mixture.

#### Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

#### Classification according to GHS (1272/2008/EC, CLP)

#### Acute toxicity

Shall not be classified as acutely toxic.

Acute toxicity of components of the mixture					
Name of substance	CAS No	Exposure route	Endpoint	Value	Species
Aluminium powder (pyrophoric)	7429-90-5	oral	LD50	>15.900 mg/kg	rat
Aluminium powder (pyrophoric)	7429-90-5	inhalation: dust/mist	LC50	>0,888 mg/l/ 4h	rat
Nickel powder	7440-02-0	oral	LD50	>9.000 mg/kg	rat

#### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

# Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH)



## Nickel-aluminium alloy 50/50% Ni/Al, for synthesis, powder

article number: 0663

### Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

### Respiratory or skin sensitisation

May cause an allergic skin reaction.

### Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

### Carcinogenicity

Suspected of causing cancer.

### Reproductive toxicity

Shall not be classified as a reproductive toxicant.

### Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

### Specific target organ toxicity - repeated exposure

Causes damage to organs (respiratory system, skin) through prolonged or repeated exposure.

Hazard category	Target organ	Exposure route
1	respiratory system	if exposed
1	skin	if exposed

### Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

### Symptoms related to the physical, chemical and toxicological characteristics

#### • If swallowed

Data are not available.

#### • If in eyes

Data are not available.

#### • If inhaled

Data are not available.

#### • If on skin

May produce an allergic reaction, pruritis, localised redness

#### • Other information

none

### 11.2 Endocrine disrupting properties

None of the ingredients are listed.

### 11.3 Information on other hazards

There is no additional information.

# Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH)



## Nickel-aluminium alloy 50/50% Ni/Al, for synthesis, powder

article number: 0663

### SECTION 12: Ecological information

#### 12.1 Toxicity

Harmful to aquatic life with long lasting effects.

Aquatic toxicity (acute) of components of the mixture					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Nickel powder	7440-02-0	LC50	15,3 mg/l	fish	96 h

Aquatic toxicity (chronic) of components of the mixture					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Nickel powder	7440-02-0	EC50	≤108 µg/l	aquatic invertebrates	21 d

#### Biodegradation

Data are not available.

#### 12.2 Process of degradability

Data are not available.

#### 12.3 Bioaccumulative potential

Data are not available.

Bioaccumulative potential of components of the mixture				
Name of substance	CAS No	BCF	Log KOW	BOD5/COD
Nickel powder	7440-02-0	45		

#### 12.4 Mobility in soil

Data are not available.

#### 12.5 Results of PBT and vPvB assessment

Data are not available.

#### 12.6 Endocrine disrupting properties

None of the ingredients are listed.

#### 12.7 Other adverse effects

Data are not available.

### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

# Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH)



## Nickel-aluminium alloy 50/50% Ni/Al, for synthesis, powder

article number: **0663**

### Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

### Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used.

### 13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process. Waste catalogue ordinance (Germany).

### 13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

## SECTION 14: Transport information

### 14.1 UN number or ID number

ADRRID	UN 1396
IMDG-Code	UN 1396
ICAO-TI	UN 1396

### 14.2 UN proper shipping name

ADRRID	ALUMINIUM POWDER, UNCOATED
IMDG-Code	ALUMINIUM POWDER, UNCOATED
ICAO-TI	Aluminium powder, uncoated

### 14.3 Transport hazard class(es)

ADRRID	4.3
IMDG-Code	4.3
ICAO-TI	4.3

### 14.4 Packing group

ADRRID	III
IMDG-Code	III
ICAO-TI	III

### 14.5 Environmental hazards

non-environmentally hazardous acc. to the dangerous goods regulations

### 14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

### 14.7 Maritime transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

### 14.8 Information for each of the UN Model Regulations

# Safety data sheet


according to Regulation (EC) No. 1907/2006 (REACH)



## Nickel-aluminium alloy 50/50% Ni/Al, for synthesis, powder

article number: **0663**

### Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) - Additional information

Proper shipping name	ALUMINIUM POWDER, UNCOATED
Particulars in the transport document	UN1396, ALUMINIUM POWDER, UNCOATED, 4.3, III, (E)
Classification code	W2
Danger label(s)	4.3
	
Excepted quantities (EQ)	E1
Limited quantities (LQ)	1 kg
Transport category (TC)	3
Tunnel restriction code (TRC)	E
Hazard identification No	423

### Regulations concerning the International Carriage of Dangerous Goods by Rail (RID) Additional information

<b>Classification code</b>	4.3
<b>Danger label(s)</b>	4.3



<b>Excepted quantities (EQ)</b>	E1
<b>Limited quantities (LQ)</b>	1 kg
<b>Transport category (TC)</b>	3
<b>Hazard identification No</b>	423

### International Maritime Dangerous Goods Code (IMDG) - Additional information

Proper shipping name	ALUMINIUM POWDER, UNCOATED
Particulars in the shipper's declaration	UN1396, ALUMINIUM POWDER, UNCOATED, 4.3, III
Marine pollutant	-
Danger label(s)	4.3



Special provisions (SP)	223
Excepted quantities (EQ)	E1
Limited quantities (LQ)	1 kg
EmS	F-G, S-O
Stowage category	A
<b>Segregation group</b>	15 - Powdered metals

# Safety data sheet


according to Regulation (EC) No. 1907/2006 (REACH)



## Nickel-aluminium alloy 50/50% Ni/Al, for synthesis, powder

article number: **0663**

### International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Proper shipping name	Aluminium powder, uncoated
Particulars in the shipper's declaration	UN1396, Aluminium powder, uncoated, 4.3, III
Danger label(s)	4.3
	
Special provisions (SP)	A3
Excepted quantities (EQ)	E1
Limited quantities (LQ)	10 kg

## SECTION 15: Regulatory information

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

#### Relevant provisions of the European Union (EU)

#### Restrictions according to REACH, Annex XVII

Dangerous substances with restrictions (REACH, Annex XVII)				
Name of substance	Name acc. to inventory	CAS No	Restriction	No
Nickel-aluminium alloy	flammable / pyrophoric		R40	40
Nickel powder	nickel	7440-02-0	R27	27

#### Legend

- R27 1. Shall not be used:  
(a) in any post assemblies which are inserted into pierced ears and other pierced parts of the human body unless the rate of nickel release from such post assemblies is less than 0,2 µg/cm<sup>2</sup>/week (migration limit);  
(b) in articles intended to come into direct and prolonged contact with the skin such as:  
- earrings,  
- necklaces, bracelets and chains, anklets, finger rings,  
- wrist-watch cases, watch straps and tighteners,  
- rivet buttons, tighteners, rivets, zippers and metal marks, when these are used in garments,  
if the rate of nickel release from the parts of these articles coming into direct and prolonged contact with the skin is greater than 0,5 µg/cm<sup>2</sup>/week.  
(c) in articles referred to in point (b) where these have a non-nickel coating unless such coating is sufficient to ensure that the rate of nickel release from those parts of such articles coming into direct and prolonged contact with the skin will not exceed 0,5 µg/cm<sup>2</sup>/week for a period of at least two years of normal use of the article.
2. Articles which are the subject of paragraph 1 shall not be placed on the market unless they conform to the requirements set out in that paragraph.
3. The standards adopted by the European Committee for Standardisation (CEN) shall be used as the test methods for demonstrating the conformity of articles to paragraphs 1 and 2.
- R40 1. Shall not be used, as substance or as mixtures in aerosol dispensers where these aerosol dispensers are intended for supply to the general public for entertainment and decorative purposes such as the following:  
- metallic glitter intended mainly for decoration,  
- artificial snow and frost,  
- 'whoopee' cushions,  
- silly string aerosols,  
- imitation excrement,  
- horns for parties,  
- decorative flakes and foams,  
- artificial cobwebs,  
- stink bombs.
2. Without prejudice to the application of other Community provisions on the classification, packaging and labelling of substances, suppliers shall ensure before the placing on the market that the packaging of aerosol dispensers referred to above is marked visibly, legibly and indelibly with:  
'For professional users only'.
3. By way of derogation, paragraphs 1 and 2 shall not apply to the aerosol dispensers referred to Article 8 (1a) of Council Directive 75/324/EEC (2).
4. The aerosol dispensers referred to in paragraphs 1 and 2 shall not be placed on the market unless they conform to the requirements indicated.

#### List of substances subject to authorisation (REACH, Annex XIV)/SVHC - candidate list

None of the ingredients are listed.

# Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH)



## Nickel-aluminium alloy 50/50% Ni/Al, for synthesis, powder

article number: 0663

### Seveso Directive

2012/18/EU (Seveso III)			
No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements	Notes
	not assigned		

### Deco-Paint Directive

VOC content	0 % 0 g/l
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### Industrial Emissions Directive (IED)

VOC content	0 %
VOC content	0 g/l

### Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

none of the ingredients are listed

### Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

Pollutant release and transfer registers (PRTR)			
Name of substance	CAS No	Remarks	Threshold for releases to air (kg/year)
Nickel powder	7440-02-0	(8)	50

#### Legend

(8) All metals shall be reported as the total mass of the element in all chemical forms present in the release

### Water Framework Directive (WFD)

List of pollutants (WFD)				
Name of substance	Name acc. to inventory	CAS No	Listed in	Remarks
Aluminium powder (pyrophoric)	Metals and their compounds		a)	
Nickel powder	nickel	7440-02-0	b)	
Nickel powder	nickel compounds		b)	
Nickel powder	nickel compounds	7440-02-0	c)	
Nickel powder	Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment		a)	
Nickel powder	Metals and their compounds		a)	

#### Legend

A) Indicative list of the main pollutants

# Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH)



## Nickel-aluminium alloy 50/50% Ni/Al, for synthesis, powder

article number: **0663**

### Legend

- B) List of priority substances in the field of water policy  
C) Environmental Quality Standards for Priority Substances and certain other pollutants

### Regulation on the marketing and use of explosives precursors

Explosives precursors which are subject to restrictions					
Name of substance	CAS No	Type of registration	Remarks	Limit value	Upper limit value for the purpose of licensing under Article 5(3)
Aluminium powder (pyrophoric)	7429-90-5	Annex II	powd d < 200 µm > 70%		

### Legend

- > 70% As a substance or in mixtures containing 70 % or more, by weight, of aluminium and/or magnesium.  
annex II Substances on their own or in mixtures or in substances for which suspicious transactions shall be reported  
d < 200 µm With a particle size less than 200 µm.  
powd Powder

### Additional statements

If the product is passed on to third parties, in accordance with Article 7 "Notification of the supply chain" of Regulation EU 2019/1148, the information obligation is subject to the entire supply chain and all other provisions mentioned in Article 7 on restricted and regulated raw materials.

### Regulation on drug precursors

none of the ingredients are listed

### Regulation on substances that deplete the ozone layer (ODS)

none of the ingredients are listed

### Regulation concerning the export and import of hazardous chemicals (PIC)

none of the ingredients are listed

### Regulation on persistent organic pollutants (POP)

none of the ingredients are listed

### Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

### National inventories

Country	Inventory	Status
AU	AIIC	all ingredients are listed
CA	DSL	all ingredients are listed
CN	IECSC	all ingredients are listed
EU	ECSI	all ingredients are listed
EU	REACH Reg.	all ingredients are listed
KR	KECI	all ingredients are listed



# Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH)



## Nickel-aluminium alloy 50/50% Ni/Al, for synthesis, powder

article number: **0663**

Country	Inventory	Status
MX	INSQ	all ingredients are listed
NZ	NZIoC	all ingredients are listed
PH	PICCS	all ingredients are listed
TR	CICR	all ingredients are listed
TW	TCSI	all ingredients are listed
US	TSCA	all ingredients are listed

### Legend

AIIC	Australian Inventory of Industrial Chemicals
CICR	Chemical Inventory and Control Regulation
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
KECI	Korea Existing Chemicals Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

## 15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

## SECTION 16: Other information

### Indication of changes (revised safety data sheet)

Alignment to regulation: Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU

Restructuring: section 9, section 14

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
2.1		Classification according to Regulation (EC) No 1272/2008 (CLP): change in the listing (table)	yes
2.1		The most important adverse physicochemical, human health and environmental effects: Delayed or immediate effects can be expected after short or long-term exposure. In contact with water releases flammable gases which may ignite spontaneously. Spillage and fire water can cause pollution of watercourses.	yes
2.2		Pictograms: change in the listing (table)	yes
2.3	Other hazards: There is no additional information.	Other hazards	yes
2.3		Results of PBT and vPvB assessment: This mixture does not contain any substances that are assessed to be a PBT or a vPvB.	yes

# Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH)



## Nickel-aluminium alloy 50/50% Ni/Al, for synthesis, powder

article number: **0663**

### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
Aquatic Chronic	Hazardous to the aquatic environment - chronic hazard
BCF	Bioconcentration factor
BOD	Biochemical Oxygen Demand
Carc.	Carcinogenicity
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
COD	Chemical oxygen demand
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
LEL	Lower explosion limit (LEL)
log KOW	n-Octanol/water

# Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH)



## Nickel-aluminium alloy 50/50% Ni/Al, for synthesis, powder

article number: **0663**

Abbr.	Descriptions of used abbreviations
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
Pyr. Sol.	Pyrophoric solid
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
S.I. No. 619 of 2001	Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001
Skin Sens.	Skin sensitisation
STEL	Short-term exposure limit
STOT RE	Specific target organ toxicity - repeated exposure
SVHC	Substance of Very High Concern
TWA	Time-weighted average
UEL	Upper explosion limit (UEL)
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative
Water-react.	Material which, in contact with water, emits flammable gases

### Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

### Classification procedure

Physical and chemical properties. The classification is based on tested mixture.

Health hazards. Environmental hazards. The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

### List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H250	Catches fire spontaneously if exposed to air.
H261	In contact with water releases flammable gases.
H317	May cause an allergic skin reaction.
H351	Suspected of causing cancer.
H372	Causes damage to organs (respiratory system, skin) through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.