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Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
Revised on / Version: 25.03.2011 / 0003  
Replaces revision of / Version: 13.08.2008 / 0002  
Valid from: 25.03.2011  
PDF print date: 25.03.2011  
Silicon Manganese

## Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

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

#### 1.1 Product identifier

### Silicon Manganese

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

##### Relevant identified uses of the substance or mixture:

Additive  
Metal alloy

##### Uses advised against:

No information available at present.

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

Nizi International S.A., 89, rue Pafebruch, L-8308 CAPELLEN  
Telephone +352 44 22 21 1, Fax +352 44 52 68  
info@nizi.com

E-mail address of the competent person: info@chemical-check.de, k.schnurbusch@chemical-check.de

#### 1.4 Emergency telephone

##### Advisory office in case of poisoning:

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##### Telephone number of the company in case of emergencies:

Tel.: +352 44 22 21 1 (8.00h - 18.00h M-F)

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### 2.1.1 Classification according to Regulation (EC) 1272/2008 (CLP)

Not determined

##### 2.1.2 Classification according to Directives 67/548/EEC and 1999/45/EC (including amendments).

Not applicable

#### 2.2 Label elements

##### 2.2.1 Labeling according to Regulation (EC) 1272/2008 (CLP)

Not determined

##### 2.2.2 Labeling according to Directives 67/548/EEC and 1999/45/EC (including amendments).

Symbols: Not applicable

Indications of danger: --

R-phrases:

--

S-phrases:

--

Additions: n.a.

#### 2.3 Other hazards

The mixture contains no vPvB substance (vPvB = very persistent, very bioaccumulative).

The mixture contains no PBT substance (PBT = persistent, bioaccumulative, toxic).

Dangerous gases/vapours are released on contact with water or moist air.

Development of:

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Toxic gases  
 Possible emission of inflammable gases.  
 (AsH<sub>3</sub>, PH<sub>3</sub>, H<sub>2</sub>)  
 In the event of contact with the hot product:  
 Danger of burns

### SECTION 3: Composition/information on ingredients

#### 3.1 Substance

n.a.

#### 3.2 Mixture

--	
<b>Registration number (ECHA)</b>	-
<b>Index</b>	-
<b>EINECS, ELINCS</b>	-
<b>CAS</b>	-
<b>content %</b>	
<b>Symbol</b>	-
<b>R-phrases</b>	-
<b>Classification categories / Indications of danger</b>	---
<b>Hazard class/Hazard category</b>	<b>Hazard statement</b>
---	---

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

##### Inhalation

Remove person from danger area.  
 Supply person with fresh air and consult doctor according to symptoms.

##### Skin contact

Wash thoroughly with soap and water.  
 Remove contaminated clothing immediately.

##### Eye contact

Wash thoroughly for several minutes using copious water. Seek medical help if necessary.  
 Keep Data Sheet available.

##### Ingestion

Call doctor immediately - have Data Sheet available.

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

Where relevant delayed occurring symptoms and effects will be found in section 11. or at the exposure routes under section 4.1.  
 The following may occur:

Irritation of the skin.

Irritation of the eyes

Product is mechanically abrasive.

Irritant effect to damaged skin.

On dust formation:

Irritation of the respiratory tract

Coughing

Inhalation:

Effects/damages the central nervous system

Muscle pains

Danger of serious damage to health by prolonged exposure through inhalation.

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

n.c.

### SECTION 5: Firefighting measures

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## 5.1 Extinguishing media

### Suitable extinguishing media

Dry extinguisher

Sand

Metal fire extinguisher

### Unsuitable extinguishing media

Water

## 5.2 Special hazards arising from the substance or mixture

In case of fire the following can develop:

Irritating vapours

Toxic vapours

Metal oxides

Manganese oxides

## 5.3 Advice for firefighters

Protective respirator with independent air supply.

Full protection, if necessary

According to size of fire

Dispose of contaminated extinction water according to official regulations.

## SECTION 6: Accidental release measures

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

Avoid build up of dust.

Avoid contact with eyes or skin.

Do not bring into contact with water.

### 6.2 Environmental precautions

Prevent from entering drainage system.

If leakage occurs, dam up.

Prevent surface and ground-water infiltration, as well as ground penetration.

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

Pick up mechanically and dispose of according to Section 13.

### 6.4 Reference to other sections

For personal protective equipment see Section 8 and for disposal instructions see Section 13.

## SECTION 7: Handling and storage

In addition to information given in this section, relevant information can also be found in section 8 and 6.1.

### 7.1 Precautions for safe handling

Avoid build up of dust.

Avoid exposure to moist air and water.

Keep away from sources of ignition - Do not smoke.

Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.

Observe directions on label and instructions for use.

On dust formation:

Note danger of explosive-dust

If applicable, suction measures at the workstation or on the processing machine necessary.

General hygiene measures for the handling of chemicals are applicable.

Wash hands before breaks and at end of work.

Keep away from food, drink and animal feedingstuffs.

Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

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

Not to be stored in gangways or stair wells.

Store separately from alkalis.

Store separately from acids.

Protect against moisture and store closed.

Store in a well ventilated place.

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Keep out of access to unauthorised individuals.  
 If applicable:  
 Only use tested (UN tested) containers.  
**7.3 Specific end use(s)**  
 No information available at present.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

ⒼⒺ	Chemical Name		Content %:
	Manganese		
	WEL-TWA: 0,5 mg/m <sup>3</sup>	WEL-STEL: ---	---
	BMGV: ---	Other information: ---	
ⒼⒺ	Chemical Name		Content %:
	Silicon		
	WEL-TWA: 10 mg/m <sup>3</sup> (total inh. dust), 4 mg/m <sup>3</sup> (res. dust)	WEL-STEL: ---	---
	BMGV: ---	Other information: ---	
ⒼⒺ	Chemical Name		Content %:
	Carbon black		
	WEL-TWA: 3,5 mg/m <sup>3</sup>	WEL-STEL: 7 mg/m <sup>3</sup>	---
	BMGV: ---	Other information: ---	
ⒼⒺ	Chemical Name		Content %:
	Arsine		
	WEL-TWA: 0,05 ppm (0,16 mg/m <sup>3</sup> )	WEL-STEL: ---	---
	BMGV: ---	Other information: ---	
ⒼⒺ	Chemical Name		Content %:
	Phosphine		
	WEL-TWA: 0,1 ppm (0,14 mg/m <sup>3</sup> ) (WEL, EC)	WEL-STEL: 0,2 ppm (0,28 mg/m <sup>3</sup> ) (WEL, EC)	---
	BMGV: ---	Other information: ---	

ⒼⒺ WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period) EH40. AGW = "Arbeitsplatzgrenzwert" (workplace limit value, Germany). | WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period). | BMGV = Biological monitoring guidance value EH40. BGW = "Biologischer Grenzwert" (biological limit value, Germany) | Other information: Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage.  
 \*\* = The exposure limit for this substance is repealed through the TRGS 900 (Germany) of January 2006 with the goal of revision.

### 8.2 Exposure controls

#### 8.2.1 Appropriate engineering controls

Ensure good ventilation. This can be achieved by local suction or general air extraction.  
 If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn.  
 Applies only if maximum permissible exposure values are listed here.

#### 8.2.2 Individual protection measures, such as personal protective equipment

General hygiene measures for the handling of chemicals are applicable.  
 Wash hands before breaks and at end of work.  
 Keep away from food, drink and animal feedingstuffs.  
 Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

Eye/face protection: Normally not necessary.  
 With danger of contact with eyes.  
 Tight fitting protective goggles with side protection (EN 166).

Skin protection - Hand protection: According to operation.  
 Protective plastic gloves (EN 374).  
 Leather gloves  
 Protective hand cream recommended.

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Skin protection - Other: Protective working garments (e.g. safety shoes EN ISO 20345, long-sleeved protective working garments)

Respiratory protection: Normally not necessary.  
 If OES or MEL is exceeded.  
 Breathing mask with fine dust filter necessary (EN 143), code colour white.  
 Fine-dust filter with Filter P2 (EN 143), code colour white.

Thermal hazards:  
 If applicable, these are included in the individual protective measures (eye/face protection, skin protection, respiratory protection).

Additional information on hand protection - No tests have been performed.  
 In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents.  
 Selection of materials derived from glove manufacturer's indications.  
 Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account.  
 Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.  
 In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use.  
 The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

### 8.2.3 Environmental exposure controls

No information available at present.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state:	Solid, lumpy
Colour:	Grey, Silver
Odour:	Odourless
Odour threshold:	Not determined
pH-value:	Not determined
Melting point/freezing point:	1075-1240 °C
Initial boiling point and boiling range:	Not determined
Flash point:	n.a.
Evaporation rate:	Not determined
Flammability (solid, gas):	n.a.
Lower explosive limit:	n.a.
Upper explosive limit:	n.a.
Vapour pressure:	Not relevant.
Vapour density (air = 1):	Not determined
Density:	5,9-6,5 g/cm <sup>3</sup>
Bulk density:	Not determined
Solubility(ies):	Not determined
Water solubility:	reacts with water, Insoluble
Partition coefficient (n-octanol/water):	Not determined
Auto-ignition temperature:	Not determined
Decomposition temperature:	Not determined
Viscosity:	Not determined
Explosive properties:	Not determined
Oxidising properties:	Not determined

### 9.2 Other information

Miscibility:	Not determined
Fat solubility / solvent:	Not determined
Conductivity:	Not determined
Surface tension:	Not determined
Solvents content:	Not determined

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

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See also Subsection 10.4 to 10.6.  
 The product has not been tested.

**10.2 Chemical stability**

See also Subsection 10.4 to 10.6.  
 Stable with proper storage and handling.

**10.3 Possibility of hazardous reactions**

See also Subsection 10.4 to 10.6.

**10.4 Conditions to avoid**

See also section 7.  
 Protect from humidity.

**10.5 Incompatible materials**

See also section 7.  
 Water  
 Acids  
 Bases  
 Hydrofluoric acid  
 Development of:  
 SiF<sub>4</sub>

**10.6 Hazardous decomposition products**

See also Subsection 10.4 to 10.6.  
 See also section 5.3  
 In case of contact with water:  
 Arsine  
 Phosphine

**SECTION 11: Toxicological information**

The product was not tested.  
 Classification according to calculation procedure.

<b>Silicon Manganese</b>						
<b>Toxicity/effect</b>	<b>Endpoint</b>	<b>Value</b>	<b>Unit</b>	<b>Organism</b>	<b>Test method</b>	<b>Notes</b>
Acute toxicity, by oral route:				---		n.d.a.
Acute toxicity, by dermal route:				---		n.d.a.
Acute toxicity, by inhalation:				---		n.d.a.
Skin corrosion/irritation:				---		n.d.a.
Serious eye damage/irritation:				---		n.d.a.
Respiratory or skin sensitisation:				---		n.d.a.
Germ cell mutagenicity:				---		n.d.a.
Carcinogenicity:				---		n.d.a.
Reproductive toxicity:				---		n.d.a.
Specific target organ toxicity - single exposure (STOT-SE):				---		n.d.a.
Specific target organ toxicity - repeated exposure (STOT-RE):				---		n.d.a.
Aspiration hazard:				---		n.d.a.
Respiratory tract irritation:				---		n.d.a.
Repeated dose toxicity:				---		n.d.a.
Symptoms:				---		n.d.a.

<b>Manganese</b>						
<b>Toxicity/effect</b>	<b>Endpoint</b>	<b>Value</b>	<b>Unit</b>	<b>Organism</b>	<b>Test method</b>	<b>Notes</b>
Acute toxicity, by oral route:	LD50	5000	mg/kg	Rat		

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Symptoms:				---		fever, coughing, headaches, stomach pain
-----------	--	--	--	-----	--	--

Silicon						
Toxicity/effect	Endpoint	Value	Unit	Organism	Test method	Notes
Symptoms:				---		gastrointestinal disturbances

Carbon black						
Toxicity/effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>8000	mg/kg	Rat		
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant
Serious eye damage/irritation:				Rabbit		Not irritant
Germ cell mutagenicity:				---	OECD 471 (Bacterial Reverse Mutation Test)	Negative

## SECTION 12: Ecological information

Silicon Manganese							
Toxicity/effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
Toxicity to fish:							n.d.a.
Toxicity to daphnia:							n.d.a.
Toxicity to algae:							n.d.a.
Persistence and degradability:							n.d.a.
Bioaccumulative potential:							n.d.a.
Mobility in soil:							n.d.a.
Results of PBT and vPvB assessment							n.d.a.
Other adverse effects:							n.d.a.

Carbon black							
Toxicity/effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
Toxicity to fish:	LC50	96h	>1000	mg/l	(Brachydanio rerio)	OECD 203 (Fish, Acute Toxicity Test)	
Toxicity to daphnia:	EC50	24h	>5600	mg/l	(Daphnia magna)	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
Toxicity to algae:	NOEC/NOEL	72h	10000	mg/l	(Scenedesmus subspicatus)	OECD 201 (Alga, Growth Inhibition Test)	
Toxicity to bacteria:	EC0	72h	>= 800		(activated sludge)		
Water solubility:			0				

## SECTION 13: Disposal considerations

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### 13.1 Waste treatment methods

#### For the substance / mixture / residual amounts

EC disposal code no.:

The waste codes are recommendations based on the scheduled use of this product.  
 Owing to the user's specific conditions for use and disposal, other waste codes may be allocated under certain circumstances. (2001/118/EC, 2001/119/EC, 2001/573/EC)

06 08 99 wastes not otherwise specified

10 08 04 particulates and dust

20 01 40 metals

Recommendation:

Pay attention to local and national official regulations

E.g. suitable incineration plant.

E.g. dispose at suitable refuse site.

#### For contaminated packing material

Pay attention to local and national official regulations

Empty container completely.

Uncontaminated packaging can be recycled.

Dispose of packaging that cannot be cleaned in the same manner as the substance.

## SECTION 14: Transport information

### General statements

UN number: n.a.

### Transport by road/by rail (ADR/RID)

UN proper shipping name:

Transport hazard class(es): n.a.

Packing group: n.a.

Classification code: n.a.

LQ (ADR 2011): n.a.

LQ (ADR 2009): n.a.

Environmental hazards: Not applicable

Tunnel restriction code:

UN proper shipping name:

UN proper shipping name:

### Special precautions for user

Unless specified otherwise, general measures for safe transport must be followed.

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Non-dangerous material according to Transport Regulations.

### Additional information:

Non-dangerous material according to Transport Regulations.

## SECTION 15: Regulatory information

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

For classification and labelling see Section 2.

Observe restrictions: n.a.

### 15.2 Chemical safety assessment

No information available at present.

## SECTION 16: Other information

These details refer to the product as it is delivered.

Revised sections: 1 - 16

### Legend:



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n.a. = not applicable / n.v., n.av. = not available / n.g., n.c. = not checked / k.D.v., n.d.a. = no data available

WEL = Workplace Exposure Limit EH40, TWA = Long-term exposure limit (8-hour TWA (= time weighted average) reference

period), STEL = Short-term exposure limit (15-minute reference period) / BMGV = Biological monitoring guidance value EH40

AGW = "Arbeitsplatzgrenzwert" (workplace limit value, Germany) / BGW = "Biologischer Grenzwert" (biological limit value, Germany)

VbF = Regulations for flammable liquids (Austria)

VOC = Volatile organic compounds

AOX = Adsorbable organic halogen compounds

ATE = Acute Toxicity Estimates according to Regulation (EC) 1272/2008 (CLP)

The statements made here should describe the product with regard to the necessary safety precautions - they are not meant to guarantee definite characteristics - but they are based on our present up-to-date knowledge.

No responsibility.

These statements were made by:

**Chemical Check GmbH, Wöbbeler Straße 2-4, D-32839 Steinheim, Tel.: +49 5233 94 17 0, +49 1805-CHEMICAL / +49 180 52 43 642, Fax: +49 5233 94 17 90, +49 180 50 50 455**

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