# Safety data sheet
**according to 1907/2006/EC, Article 31 including Amendment Regulation (EU) 2020/878**

Printing date 15.09.2023 Version number 3 (replaces version 2) Revision: 15.09.2023

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

· **Product identifier**

· **Trade name:** **VACOMAX 145, -170, -175, -190**
· **Chemical Identification** Cobalt rare earth permanent magnet alloy
· **Material Safety Data Sheet No.:** SDS 60
· **UFI:** 4550-J07E-100J-HGPR
· **Relevant identified uses of the substance or mixture and uses advised against**
Uses advised against: mechanical processing of coated permanent magnets and bonded magnet systems.
· **Application of the substance / the mixture**
For industrial and commercial applications:
1. permanent magnets (uncoated and coated as well as non-magnetic or magnetised) for use e.g. in systems, motors, generators, sensors, e-mobility. Available coatings: see section 3.
2. permanent magnet blocks for the production of permanent magnets (by mechanical processing).

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Vacuumschmelze GmbH & Co.KG
Grüner Weg 37
D-63450 HANAU
DEUTSCHLAND
datasheed@vacuumschmelze.com

· **Further information obtainable from:** Department Development Chemical Technology Permanent Magnets
· **Emergency telephone number:** +49-6181-38-2250 available Mon-Fri. 8: 00-17: 00

* 

## 2 Hazards identification

· **Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008**

GHS08 health hazard

| | | |
|---|---|---|
| Resp. Sens. 1 | H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| Muta. 2 | H341 | Suspected of causing genetic defects. |
| Carc. 1B | H350 | May cause cancer. |
| Repr. 1B | H360F | May damage fertility. |

GHS07

| | | |
|---|---|---|
| Skin Sens. 1 | H317 | May cause an allergic skin reaction. |
| Aquatic Chronic 4 | H413 | May cause long lasting harmful effects to aquatic life. |

· **Label elements**
· **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
· **Hazard pictograms**

GHS08

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· **Signal word** Danger

· **Hazard-determining components of labelling:**
cobalt
nickel (as coating)
Solvent Black 27 (contained in the coatings VACCOAT 20011 and 20021)

· **Hazard statements**
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H341 Suspected of causing genetic defects.
H350 May cause cancer.
H360F May damage fertility.
H413 May cause long lasting harmful effects to aquatic life.

· **Precautionary statements**
P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read carefully and follow all instructions.
P201 Obtain special instructions before use.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P284 [In case of inadequate ventilation] wear respiratory protection.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Additional information:** For professional and industrial users only.

· **Other hazards**

The samarium used in its natural isotopic composition exhibits a natural radioactivity mainly due to the isotope samarium 147 as an alpha emitter. This does not result in any hazards for use as a permanent magnet. There are no possible hazards due to respirable dust containing samarium during the processing of samarium-cobalt permanent magnet alloys if the cobalt limit values are complied with. For the valid cobalt limit values, see Chapter 8 of this safety data sheet. A samarium limit derived by the manufacturer is also specified there.

**Additional hazards resulting from the uses:**

**1. Use as supplied, for assembly, for example, in technical systems.**

a) Magnetized parts generate magnetic fields and can exert forces of attraction on other magnetizable parts / substances. Electronic devices and measuring instruments can have their calibration changed or damaged by high field strengths. In particular, magnetized parts must be kept at a safe distance from computers, monitors and magnetic data carriers, as well as from active and passive implants (for example, heart pacemakers or artificial joints).
People with implants should be particularly careful when handling magnets and / or magnet systems. Safety distances must be observed, otherwise the implant may malfunction.
There is a risk of injury when handling magnetized parts. This can result in severe crushing injuries if they are handled improperly.
Magnets must not be used in potentially explosive atmospheres because sparks may be generated in the event of a collision.

b) Parts delivered magnetized are subject to the IATA transport guidelines relating to the external magnetic field of the packaging, for this, see Point 14 SIDA.

c) Skin contact with the magnet surfaces may cause allergic reactions due to the cobalt content or in the case of

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*nickel-plated magnets.*

*d) Dusty abraded material generated during assembly work, for example, in feed lines, can, due to the cobalt content, be carcinogenic when inhaled and / or cause allergies which must be assessed on a workplace-specific basis.*
*Respirable fine cobalt metal powder (grain size ≤10µm) is also "Acutely toxic by inhalation Category 1".*

***2. Aqueous mechanical processing, for example, with the use of cooling lubricants:***

*a) Due to the rare earth content, the resulting abraded material reacts with the aqueous processing agents to form hydrogen. ATTENTION: Formation of hazardous explosive (EX) atmospheres possible!*
*Part of the hydrogen produced is stored in the material. The resulting processing slurries must be kept under protective liquid because the slurries that dry out can react in a self-heating or pyrophoric manner. When the temperature rises, the stored hydrogen is released and ex-atmospheres can form or the hydrogen burns off including the organics with flame / soot formation (in contrast to pure metal fires).*

*b) Abraded metal and metal ions such as cobalt are introduced during aqueous mechanical machining using cooling lubricants. This can lead to sensitization and allergic reactions of the skin in the event of prolonged and repeated skin contact. In addition, aerosols containing cobalt, which must be assessed on a workplace-specific basis, can be generated. This can be partly prevented by using cobalt-inhibited cooling lubricants.*

*Additional hazard statements:*
*Aqueous abraded metal material / aqueous grinding sludge develop hydrogen.*
*EUH 018: In use may form flammable / explosive vapour - air mixtures.*

*On drying out:*
*Pyrophoric and / or self-heating materials may be present.*
*H 260: In contact with water releases flammable gases which may ignite spontaneously.*
*H 250: Catches fire spontaneously if exposed to air.*
*H 251: Self-heating; may catch fire.*

*Additional information about machining residues / waste (grinding sludge and used cooling lubricants):*
*In Section 13: European List of Waste: In addition to the phrases listed there, HP3 and HP4 still apply to them.*
*In Section 15: Self-classification of machining residues in water hazard Class 3 (highly hazardous to water).*

*Additional information:*
*Only use cooling lubricants that are inhibited against the dissolution of cobalt as the metallic cobalt is dissolved out in ionic form on contact with the magnet and enriched in the cooling lubricant. This effect can cause increased exposure of the processor to cobalt salts which can cause allergies through skin contact or be absorbed into the body through inhalation of the cooling lubricant aerosol.*

*On drying out:*
*P210: Keep away from heat / sparks / open flames / hot surfaces – No smoking.*
*P222: Do not allow contact with air.*
*P280: Wear protective gloves / protective clothing / eye protection / face protection.*
*P332+P313: If skin irritation occurs: Get medical advice / attention.*
*P337+P313: If eye irritation persists, get medical advice / attention.*

***3. Dust-forming mechanical processing (for example, dry-blasting process):***

*a) Such processes are not recommended. As it produces self-heating or pyrophoric dusts with a tendency to explode, the dry mechanical processing of rare earth permanent magnet alloys is only permissible under special safety precautions. The dust arising containing cobalt is carcinogenic and can cause allergies. Respirable fine cobalt metal powder (grain size ≤10µm) is also "Acutely toxic by inhalation Category 1".*

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*Additional hazard statements:*
*H 250: Catches fire spontaneously if exposed to air.*
*H 251: Self-heating; may catch fire.*
*EUH 018: In use may form flammable / explosive vapour - air mixtures.*
*H 315: Causes skin irritation.*
*H 319: Causes serious eye irritation.*

*Additional information regarding machining residues / waste (grinding sludge):*
*Self-classification in water hazard Class 3 (highly hazardous to water).*
*European List of Waste: Additionally, HP3 and HP4.*

*Additional safety statements:*
*P210: Keep away from heat / sparks / open flames / hot surfaces – No smoking.*
*P222: Do not allow contact with air.*
*P280: Wear protective gloves / protective clothing / eye protection / face protection.*
*P332+P313: If skin irritation occurs: Get medical advice / attention.*
*P337+P313: If eye irritation persists, get medical advice / attention.*

· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

## 3 Composition/information on ingredients

· **Mixtures**
· **Description:** Permanent Magnet

· **Dangerous components:**

| | | |
|---|---|---|
| CAS: 7440-48-4<br>EINECS: 231-158-0<br>Index number: 027-001-00-9 | cobalt<br>Resp. Sens. 1, H334; Muta. 2, H341; Carc. 1B, H350; Repr. 1B, H360F; Skin Sens. 1, H317; Aquatic Chronic 4, H413 | 62-67% |
| CAS: 7440-02-0<br>EINECS: 231-111-4<br>Index number: 028-002-00-7 | nickel (as coating)<br>Carc. 2, H351; STOT RE 1, H372; Skin Sens. 1, H317 | <9% |
| CAS: 12237-22-8 | Solvent Black 27 (contained in the coatings VACCOAT 20011 and 20021)<br>Repr. 1B, H360D; STOT RE 2, H373; Skin Sens. 1B, H317 | <0.03% |

· **Non-hazardous components**
(*) The proportion of rare earths (samarium, praseodymium and gadolinium) is 33-38% in total

| | | |
|---|---|---|
| CAS: 7440-19-9<br>EINECS: 231-128-7 | samarium | (*)% |
| CAS: 7440-10-0<br>EINECS: 231-120-3 | praseodymium | (*)% |
| CAS: 7440-54-2<br>EINECS: 231-162-2 | gadolinium | (*)% |
| CAS: 7429-90-5<br>EINECS: 231-072-3<br>Index number: 013-002-00-1 | aluminium (as coating) | <3% |

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| | | |
|---|---|---|
| CAS: 7440-31-5<br>EINECS: 231-141-8 | tin (as coating) | <9% |
| CAS: 7440-31-5<br>EINECS: 231-141-8 | tin (powder) | <0.3% |
| CAS: 7440-57-5 | gold (as coating) | <5% |
| CAS: 25583-20-4<br>EINECS: 247-117-5 | titanium nitride (as coating) | <3% |

· **Additional information:**
For the wording of the listed hazard phrases refer to section 16.
**Alloys containing nickel are classified as skin sensitizing if the release exceeds 0.5 µg Ni/cm²/week measured using the European Standard Reference Method EN 1811.**

Details of the possible coatings and bonded magnet systems:

Coating: IVD aluminium
Application: Ion Vapour Deposition
Composition: Aluminium, passivated
Type. Coating thickness: < 10µm

Coating: PVD titanium nitride
Application: Physical Vapour Deposition
Composition: Titanium nitride
Type. Coating thickness: < 10µm

Coating: VACCOAT 10047
Application: Aluminium spray painting
Composition: Cured phenolic resin base with aluminium content
Type. Coating thickness: < 20µm

Coating: VACCOAT 20011, 20021 und 30033
Application: Spray painting
Composition: Cured phenolic resin base
Type. Coating thickness: < 20µm

Coating: Nickel
Application: Galvanic
Composition: Nickel
Type. Coating thickness: < 30µm

Coating: Tin
Application: Galvanic
Composition: Tin
Type. Coating thickness: < 30µm

Coating: Tin / nickel and nickel / tin
Application: Galvanic
Composition: Nickel / tin
Type. Coating thickness: < 30µm (total)

Coating: Nickel / gold
Application: Galvanic
Composition: Nickel / gold

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*Type. Coating thickness: < 30µm (total)*

*Bonding: Bonded magnets, bonded coated magnets*
*Application: Bonding*
*Composition: Epoxy resin based / acrylic cured adhesives*
*Type. Coating thickness: Adhesive joint application-related*

*In the cured and /or delivered form, the organic coatings and adhesives do not contain any substances hazardous to health or the environment (in accordance with Regulation (EC) No. 1272/2008 - Annex VI).*

*The metallic coatings – with the exception of the nickel coating - are not classified in accordance with Regulation (EC) No. 1272/2008 - Annex VI). The classification of the nickel coating has been made under Point 3. Furthermore, Point 2 of the safety data sheet must be observed.*

*Dust formation of the coating materials is not foreseen in the application. The general dust limit values and / or substance limit values of the coating materials and their ingredients must be used for dusts generated in the event of improper use.*

***REACH - SVHC***
***Substances of very high concern (Candidate List of Substances of Very High Concern), in accordance with REACH; Article 57:***
***Magnets and coatings contain none or less than 0.1% of the listed substances.***

***RoHS***
***"Restriction of (the use of certain) Hazardous Substances in Electrical and Electronic Equipment"-***
***Restriction of the use of certain hazardous substances in electrical and electronic equipment:***
***Magnets and coated magnets are RoHS compliant.***

## 4 First aid measures

· ***Description of first aid measures***
· ***General information:*** *Immediately remove any clothing soiled by the product.*
· ***After inhalation:***
*Supply fresh air and to be sure call for a doctor.*
*In case of unconsciousness place patient stably in side position for transportation.*
· ***After skin contact:*** *Immediately wash with water and soap and rinse thoroughly.*
· ***After eye contact:*** *Rinse opened eye for several minutes under running water.*
· ***After swallowing:*** *If symptoms persist consult doctor.*
· ***Most important symptoms and effects, both acute and delayed*** *No further relevant information available.*
· ***Indication of any immediate medical attention and special treatment needed***
*No further relevant information available.*

## 5 Firefighting measures

· ***Extinguishing media***
· ***Suitable extinguishing agents:*** *Use fire extinguishing methods suitable to surrounding conditions.*
· ***Special hazards arising from the substance or mixture*** *No further relevant information available.*

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· **Advice for firefighters**
· **Protective equipment:** No special measures required.

## 6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Use respiratory protective device against the effects of fumes/dust/aerosol.
· **Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
· **Methods and material for containment and cleaning up:**
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

## 7 Handling and storage

· **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
· **Information about fire - and explosion protection:** Keep respiratory protective device available.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** No special requirements.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:** Keep container tightly sealed.
· **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

· **Control parameters**
· **Ingredients with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
· **DNELs**
Cobalt
Long-term inhalation exposure-local effect: 0.04 mg/m³ (industry) 0.0063 mg/m³ (consumer) in the inhalable dust fraction (E)
· **Ingredients with biological limit values:** not applicable
· **Additional information:**
The lists valid during the making were used as basis.

With regard to its natural radioactivity, for samarium, a workplace related dust limit of 540 µg/m³ in total dust, derived on the basis of worst-case assumptions, is recommended by the magnet manufacturer.

**German limit value - cobalt:**
ERB: 0.5 µg/m³ (1),(3) or 5 µg/m³ (1),(2)
(1) respirable fraction (2) workplace concentration corresponding to the proposed tolerable cancer risk. (see

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*background document: Germany AGS) (3) Workplace concentration corresponding to the proposed provisional acceptable cancer risk. (see background document: Germany AGS)*

· **Exposure controls**
· **Appropriate engineering controls** *No further data; see section 7.*
· **Individual protection measures, such as personal protective equipment**
· **General protective and hygienic measures:**
*Keep away from foodstuffs, beverages and feed.*
*Immediately remove all soiled and contaminated clothing*
*Wash hands before breaks and at the end of work.*
*Store protective clothing separately.*
· **Respiratory protection:**

*In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.*

· **Hand protection**

*Avoid repeated and prolonged skin contact, wear protective gloves.*

*The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.*
*Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.*
*Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation*
*Preventive skin protection by use of skin-protecting agents is recommended.*
· **Material of gloves**
*The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.*
· **Penetration time of glove material**
*The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.*
· **Eye/face protection**

*Tightly sealed goggles*

## 9 Physical and chemical properties

· **Information on basic physical and chemical properties**
· **General Information**

| | |
|---|---|
| · **Physical state** | *Solid* |
| · **Colour:** | *Various (depending on the coating)* |
| · **Odour:** | *Odourless* |
| · **Odour threshold:** | *Not determined.* |
| · **Melting point/freezing point:** | *1,220–1,320 °C* |
| · **Boiling point or initial boiling point and boiling range** | *Undetermined.* |
| · **Flammability** | *Product is not flammable.* |

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| | |
|---|---|
| · **Lower and upper explosion limit** | |
| · **Lower:** | Not determined. |
| · **Upper:** | Not determined. |
| · **Flash point:** | Not applicable. |
| · **Decomposition temperature:** | Not determined. |
| · **pH** | Not applicable. |
| · **Viscosity:** | |
| · **Kinematic viscosity** | Not applicable. |
| · **Kinematic viscosity** | |
| · **Dynamic:** | Not applicable. |
| · **Solubility** | |
| · **water:** | Insoluble. |
| · **Partition coefficient n-octanol/water (log value)** | Not determined. |
| · **Vapour pressure:** | Not applicable. |
| · **Vapour pressure:** | |
| · **Density and/or relative density** | |
| · **Density at 20 °C:** | 8.5 g/cm³ |
| · **Relative density** | Not determined. |
| · **Vapour density** | Not applicable. |
| · **Particle characteristics** | See section 2 and 3. |
| · **Other information** | |
| · **Appearance:** | |
| · **Form:** | Solid in various forms |
| · **Important information on protection of health and environment, and on safety.** | |
| · **Ignition temperature:** | Product is not selfigniting. |
| · **Explosive properties:** | Product does not present an explosion hazard. |
| · **Solids content:** | 100.0 % |
| · **Change in condition** | |
| · **Evaporation rate** | Not applicable. |
| · **Information with regard to physical hazard classes** | |
| · **Explosives** | Void |
| · **Flammable gases** | Void |
| · **Aerosols** | Void |
| · **Oxidising gases** | Void |
| · **Gases under pressure** | Void |
| · **Flammable liquids** | Void |
| · **Flammable solids** | Void |
| · **Self-reactive substances and mixtures** | Void |
| · **Pyrophoric liquids** | Void |
| · **Pyrophoric solids** | Void |
| · **Self-heating substances and mixtures** | Void |
| · **Substances and mixtures, which emit flammable gases in contact with water** | Void |
| · **Oxidising liquids** | Void |
| · **Oxidising solids** | Void |
| · **Organic peroxides** | Void |
| · **Corrosive to metals** | Void |
| · **Desensitised explosives** | Void |

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## 10 Stability and reactivity

· **Reactivity** No further relevant information available.
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **Possibility of hazardous reactions** No dangerous reactions known.
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** No dangerous decomposition products known.

* 

## 11 Toxicological information

· **Information on hazard classes as defined in Regulation (EC) No 1272/2008**
· **Acute toxicity** Based on available data, the classification criteria are not met.

| · **LD/LC50 values relevant for classification:** | | |
|---|---|---|
| **7440-48-4 cobalt** | | |
| Oral | LD50 | 6,170 mg/kg (rat) |
| **12237-22-8 Solvent Black 27 (contained in the coatings VACCOAT 20011 and 20021)** | | |
| Oral | LD50 | >10,000 mg/kg (rat) |
| Dermal | LD50 | >2,000 mg/kg (rat) |

· **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
· **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
· **Respiratory or skin sensitisation**
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
· **Germ cell mutagenicity** Suspected of causing genetic defects.
· **Carcinogenicity** May cause cancer.
· **Reproductive toxicity** May damage fertility.
· **STOT-single exposure** Based on available data, the classification criteria are not met.
· **STOT-repeated exposure** Based on available data, the classification criteria are not met.
· **Aspiration hazard** Based on available data, the classification criteria are not met.
· **Information on other hazards**
1. Use as supplied, when mounting e.g. in technical systems:
Magnetised parts generate magnetic fields and can exert attractive forces on other magnetisable parts/substances. Electronic devices and measuring instruments can change their calibration or be damaged by high field strengths. In particular, magnetised parts must be kept at a safe distance from computers, monitors and magnetic data carriers, as well as from active and passive implants (e.g. pacemakers or artificial joints).
Wearers of implants should be particularly careful when handling magnets or magnetic systems. Safety distances must be observed, otherwise the implant may malfunction.
There is a risk of injury when handling magnetised parts. Severe crushing may occur if handled improperly. Magnets must not be used in explosive environments because sparks can be produced when they collide.
Skin contact with the magnet surfaces may cause allergic reactions due to the cobalt content or in the case of nickel-plated magnets.
2 Aqueous mechanical processing, e.g. using cooling lubricants:
Aqueous machining using cooling lubricants introduces metal abrasion and metal ions such as cobalt. This can lead to sensitisation and allergic reactions of the skin in case of prolonged and repeated skin contact. In addition, aerosols containing cobalt may be formed, which must be assessed on a workplace-specific basis. This can be partly prevented by using cobalt-inhibited cooling lubricants.
3. Dust-forming mechanical processing (e.g. dry blasting):
Such processes are not recommended. The resulting cobalt-containing dusts are carcinogenic and can cause allergies. Alveolar cobalt metal fine powder (grain size ≤10µm) is also "Acutely toxic by inhalation category 1".

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Additional hazard statements:
H315: Causes skin irritation
H319: Causes serious eye irritation.

| · **Endocrine disrupting properties** |
|---|
| None of the ingredients is listed. |

## 12 Ecological information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Bioaccumulative potential** No further relevant information available.
· **Mobility in soil** No further relevant information available.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.
· **Other adverse effects**
· **Additional ecological information:**
· **General notes:** Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

## 13 Disposal considerations

· **Waste treatment methods**
· **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
Send for proper recycling.

| · **European waste catalogue** | |
|---|---|
| HP7 | Carcinogenic |
| HP10 | Toxic for reproduction |
| HP11 | Mutagenic |
| HP13 | Sensitising |
| HP14 | Ecotoxic |

· **Uncleaned packaging:**
· **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

| | |
|---|---|
| · **UN number or ID number** | |
| · **ADR, IMDG, IATA** | not regulated |
| · **UN proper shipping name** | |
| · **ADR, IMDG, IATA** | not regulated |

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# Safety data sheet
**according to 1907/2006/EC, Article 31 including Amendment Regulation (EU) 2020/878**

Printing date 15.09.2023 Version number 3 (replaces version 2) Revision: 15.09.2023

**Trade name: VACOMAX 145, -170, -175, -190**

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| | |
|---|---|
| · **Transport hazard class(es)** | |
| · **ADR, ADN, IMDG** | |
| · **Class** | not regulated |
| · **IATA** | Air transport ICAO TI and IATA DGR:<br>-Non-magnetized parts:<br>Not hazardous goods within the meaning of the aforementioned regulation.<br>-Magnetized parts in packaging units:<br>Under certain circumstances, magnets can be classified as dangerous goods in air freight in accordance with the packing instruction IATA 953. Carry out the test for classification in accordance with the IATA regulation. If the test is positive, applicable is:<br>UN Number: 2807<br>Transport hazard classes: 9<br>UN proper shipping name: Magnetized substances. |
| · **Class** | not regulated |
| · **Packing group** | |
| · **ADR, IMDG, IATA** | not regulated |
| · **Environmental hazards:** | Not applicable. |
| · **Special precautions for user** | Not applicable. |
| · **Maritime transport in bulk according to IMO instruments** | Not applicable. |
| · **UN "Model Regulation":** | not regulated |

## 15 Regulatory information

· **Directive 2004/42/EC**

· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**

None of the ingredients is listed.

· **REGULATION (EU) 2019/1148**

· **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**

None of the ingredients is listed.

· **Annex II - REPORTABLE EXPLOSIVES PRECURSORS**

None of the ingredients is listed.

· **Regulation (EC) No 273/2004 on drug precursors**

None of the ingredients is listed.

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# Safety data sheet
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· **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**

None of the ingredients is listed.

· **National regulations:**

· **Information about limitation of use:**
The relevant employment restrictions for carcinogenic hazardous substances must be observed.
· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

* 

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**
H317 May cause an allergic skin reaction.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341 Suspected of causing genetic defects.
H350 May cause cancer.
H351 Suspected of causing cancer.
H360D May damage the unborn child.
H360F May damage fertility.
H372 Causes damage to organs through prolonged or repeated exposure.
H373 May cause damage to organs through prolonged or repeated exposure.
H413 May cause long lasting harmful effects to aquatic life.
· **Date of previous version:** 20.06.2023
· **Version number of previous version:** 2
· **Abbreviations and acronyms:**
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Resp. Sens. 1: Respiratory sensitisation – Category 1
Skin Sens. 1: Skin sensitisation – Category 1
Skin Sens. 1B: Skin sensitisation – Category 1B
Muta. 2: Germ cell mutagenicity – Category 2
Carc. 1B: Carcinogenicity – Category 1B
Carc. 2: Carcinogenicity – Category 2
Repr. 1B: Reproductive toxicity – Category 1B
Repr. 1B: Reproductive toxicity – Category 1B
STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
Aquatic Chronic 4: Hazardous to the aquatic environment - long-term aquatic hazard – Category 4
· *** Data compared to the previous version altered.**