

Safety Data Sheet

1. Chemical product and company

Magnet system/raw magnet

Item: applies to all magnets and magnetic systems in our program

Manufacturer / Supplier

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2. Composition

Bonded magnet system consisting of a nickel-plated / galvanized metal housing (possibly also of magnetic stainless steel or plastic), a raw / nickel / zinc-plated magnet or injected/pressed into plastic.

3. Hazards

- When dealing with magnets and magnet systems should be fitted with cardiac pacemakers to be extra careful. Minimum distance of 20cm to the device must be observed, otherwise it can cause temporary dysfunction of the cardiac pacemaker. (See item 16 for more information)
- The use of magnets and magnet systems in explosive areas is of concern. When possible fall of the magnets can shatter under sparking.

4. First aid measures

No specific information is required

5. Fire-fighting measures

No specific information is required

6. Accidental release measures

No specific information is required

7. Handling and Storage

7.1. Handling

In addition to the 3 already in section made remarks apply to the handling in addition also the following points:

- Not in the near magnetically stored media store or bring it close (in this example, check cards or floppy disks)
- The magnets are very strong and pull hardware. This can lead to bruising if handled improperly. Also there may be splintering, which can cause eye and cuts.

7.2. Storage

See Section 7.1

8. Exposure controls and personal protective equipment

See item 3 and item 16

9. Physical and Chemical Properties

No specific information is required

10. Stability and reactivity

No specific information is required

11. Toxicological

Upon contact with the nickel layer of the skin may cause hypersensitivity to allergic reactions.

12. Ecological

no adverse effects known

13. Disposal

- The disposal of waste should be in line with the EU Directives 91/689/EEC and 94/62 and with local, regional and national regulations.
- Compliance with the regulations with the corresponding waste-disposal companies to be clarified.
- Use waste code according to the European Waste Catalogue.

14. Transport information

Magnets may under certain circumstances, be classified as dangerous goods 953 in the air cargo in accordance with IATA packing instruction. With proper packaging eliminates the classification as dangerous goods. Magnets are not subject to the provisions of the ADR (UN No. 2807, no risk number, class 9)

15. Rules

no

16. Other information

Notes in carriers of pacemakers - Recommendation

switches with field strengths above 1 milli Tesla (mT) [= 10 Gauss] of the pacemaker (Biotronik) Reed Contact used in the so-called "magnet mode". It should be mentioned that in the "magnetic mode of the pacemaker rather than off, but is changing into a programming mode in which the cardiac pacemaker in an emergency operation (basic function) continues to work.

Furthermore, it should be added that the implanted pacemaker is located inside the body of the wearer and is also sometimes been achieved here, a distance of 1-2cm. When a solenoid or magnet system is the operating distance of the reed switch from the pacemaker, in a field of 1 milli Tesla (mT) [= 10 Gauss], depending on the magnet or magnet system <20cm. This is also the safety distance to a magnet / magnetic system from the pacemaker must have at least
(See also claim the standard "Safety of implantable cardiac pacemaker," DIN EN 50061/A1, Section 6.3.4 for the fields of 1 mT strength no interference of the pacemaker may result).

General Impact - this statement by the Federal Office for Radiation Protection

Permanent magnet

Permanent magnets can produce static magnetic fields right up to 300 milli Tesla (mT) [= 3000 Gauss] on the surface. Every few centimeters, the field is already lower than the natural geomagnetic field, which is in our part of about 0.04 milli Tesla (mT) [= 0,4 Gauss].

Are magnetic badge clips for badges safe?

For small permanent magnets to name tags were selectively measured in 1 cm distance magnetic inductions of about 1 milli Tesla (mT) [= 10 Gauss]. In 5 cm distance, it was even only 0.1 milli Tesla (mT) [= 1 Gauss]. Moreover, the values were on the back of the magnet substantially lower than on the front. **(Supplied by us are magnetic name badge holder and have a little more at a distance of 3cm to have a field strength of 1 milli Tesla (mT) [= 10 Gauss]).**

The biological effect thresholds for static magnetic fields are known. The ICNIRP is an international radiation protection committee recommends the following values for static fields for continuous use not to exceed:

40 milli Tesla (mT) [= 400 Gauss] for the general population;
for occupational exposure to 200 milli Tesla (mT) [= 2000 Gauss].

These values are for normal installation of the permanent magnets on the clothes are far from certain. Any risk or damage to the health of people can be completely excluded.

In addition, however, adverse effects for carriers of specific pacemaker types are already known from 0.5 milli Tesla (mT) [= 5 Gauss]. From about 1 milli Tesla (mT) [= 10 Gauss], effects have been described in which it came to influence of magnetic cards, credit cards, watches and similar devices. It is advisable not to use the name plates in the vicinity of implanted pacemakers store (reach approximately 1 cm) and in the jacket pockets, no sensitive magnetic cards. **We will go a little further and recommend sources of cardiac pacemakers of any use of magnetic name badge holders.**

This excerpt and more information on this subject can be found on the website of the Office for Radiation Protection under the link

http://www.bfs.de/service/faq/a_dm.htm # 01

This information is based on the present state of our knowledge and experience. The preceding data products in terms of safety requirements. The data does not have the guarantee of specific properties