

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

· **Product details**

· **Trade name:** *digadolinium trioxide*

· **Article number:** 302707

· **Application of the substance / the preparation** Chemicals for synthesis

· **Manufacturer/Supplier:**

Bracco Imaging S.p.A.

Via E. Folli, 50

20134 Milano

tel. +39 (0)2 21771

· **Further information obtainable from:** hse@bracco.com

· **Information in case of emergency:**

Emergency contact:

Ospedale Niguarda Ca' Granda - Milano

Antivenoms Centre: +39 (0)2 66101029

In case of need, call any emergency telephone number available.

2 Hazards identification

· **Hazard description:** Not applicable.

· **Information concerning particular hazards for human and environment:**

Mechanical irritation of upper respiratory tract is possible after high exposure to dusts.

See also Sections 11 and 12.

· **GHS label elements** Void

3 Composition/information on ingredients

· **Chemical characterization:**

· **CAS No. Description**

12064-62-9 digadolinium trioxide

· **Identification number(s)**

· **EINECS Number:** 235-060-9

4 First aid measures

· **General information:** See also Sections 2 and 11.

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· **After skin contact:**

Remove contaminated clothing.

Immediately wash with water and soap and rinse thoroughly.

· **After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms of irritation persist, consult a doctor.

· **After swallowing:**

Rinse out mouth with water.

If symptoms persist consult a doctor.

5 Fire-fighting measures

· **Suitable extinguishing agents:**

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **For safety reasons unsuitable extinguishing agents:** Unknown.

(Contd. on page 2)

Trade name: *digadolinium trioxide*

(Contd. of page 1)

· **Protective equipment:** No special measures required.

6 Accidental release measures

- **Person-related safety precautions:** Wear protective clothing.
- **Measures for environmental protection:**
Prevent, as much as possible, generation and diffusion of dusts.
Do not allow to enter sewers/ surface or ground water.
- **Measures for cleaning/collecting:**
Pick up mechanically.
Send for recovery or disposal in suitable receptacles.
- **Additional information:** No dangerous substances are released.

7 Handling and storage

- **Handling:**
- **Information for safe handling:**
Operations must be carried on in closed systems or, alternatively, in facilities fitted with exhaust hoods or equivalent dust capturing devices.
- **Information about fire - and explosion protection:** No special measures required.
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Store in dry conditions.
Store receptacle in a well ventilated area.
Keep container tightly sealed.
This product is hygroscopic.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see Section 7.
- **Ingredients with limit values that require monitoring at the workplace:** Not required.
- **Additional Occupational Exposure Limit Values for possible hazards during processing:**
Estimated safe levels (TLV-TWA): 10 mg/m³ - inhalable dusts
- **Additional information:** Valid data and limit values in date of revision were used as basis.
- **Personal protective equipment:**
- **General protective and hygienic measures:**
The usual precautionary measures are to be adhered to when handling chemicals.
- **Respiratory protection:**
Short term filter device:
Filter P2
- **Protection of hands:**



Protective gloves

- **Material of gloves**
Rubber gloves
PVC or PE gloves

(Contd. on page 3)

Trade name: *digadolinium trioxide*

(Contd. of page 2)

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.

· **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 protection:**



Tightly sealed goggles

· **Body protection:** Normal working clothes.

· **Limitation and supervision of exposure into the environment** See also Section 7.1

9 Physical and chemical properties

· **General Information**

Form:	Powder
	average diameter of dusts < 5 µm
Colour:	White
Odour:	Odourless

· **Change in condition**

Melting point/Melting range:	2340°C
Boiling point/Boiling range:	Undetermined.

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Product is not flammable.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Density at 20°C:** 7.41 g/cm³

· **Solubility in / Miscibility with**

water:	Basically insoluble.
organic solvents:	Basically insoluble.

10 Stability and reactivity

· **Thermal decomposition / conditions to be avoided:**

No decomposition if used and stored according to specifications.

To maintain the quality of the product, avoid exposure to moisture.

· **Dangerous reactions** No dangerous reactions known.

· **Dangerous decomposition products:** No dangerous decomposition products known.

· **Additional information:** Slight reaction with acids.

11 Toxicological information

· **Acute toxicity:**

· **Primary irritant effect:**

· **on the skin:** May cause a slight irritation by contact.

· **on the eye:** May cause irritation.

· **Sensitization:** No sensitizing effects known.

(Contd. on page 4)



LIFE FROM INSIDE

Printing date 28.10.2009

SAFETY DATA SHEET

according to 1907/2006/EC, Article 31

Sheet n° 136

Page 4/5

Revision: 28.10.2009

Trade name: *digadolinium trioxide*

(Contd. of page 3)

Additional toxicological information:

When used and handled according to specifications, the product does not have any harmful effects to our experience and the information provided to us.

· **Sensitisation** No evidence reported in working practice.

· **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

Carcinogenicity: effects not reported.

Mutagenicity: not mutagenic, according to Ames test.

Teratogenicity, reproductive effects: effects not reported.

12 Ecological information

· **Information about elimination (persistence and degradability):** Not easily biodegradable

· **Behaviour in environmental systems:**

· **Mobility and bioaccumulation potential:** Does not accumulate in organisms

· **Ecotoxicological effects:**

· **Aquatic toxicity:**

LC50	>100 mg/l (fish)
	Brachidanio rerio
	96h

· **General notes:**

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Avoid transfer into the environment.

13 Disposal considerations

· **Product:**

· **Recommendation**

Product's surplus or waste resulting from use must be handled according to precautions and individual protective measures as indicated under Sections 7 and 8.

· **Uncleaned packaging:**

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

14 Transport information

· **Maritime transport IMDG:**

· **Marine pollutant:** No

· **Transport/Additional information:**

Not reported as dangerous in a matter of transportation, according to the above mentioned regulations.

15 Regulatory information

· **Labelling according to EU guidelines:**

Observe the general safety regulations when handling chemicals.

The substance is not subject to classification according to EU lists and other sources of literature known to us.

· **Code letter and hazard designation of product:**

Labelling not required, according to the Directive 67/548/CEE

(Contd. on page 5)

GB



LIFE FROM INSIDE

Printing date 28.10.2009

SAFETY DATA SHEET

according to 1907/2006/EC, Article 31

Sheet n° 136

Page 5/5

Revision: 28.10.2009

Trade name: *digadolinium trioxide*

(Contd. of page 4)

· **National regulations:** D.lgs. n°152/2006 and subsequent amendments.

16 Other information

This information is based on our present knowledge; it is believed to be accurate and represent the best available set of data at the date of revision. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

This sheet voids and takes over any other MSDS' previous release concerning this product.

· **Training hints**

All persons handling this product should be informed on the existence of the hazard, on any possible risk they might be subjected to and about all required protective measures to prevent such a damage or to reduce the exposition.

· **Department issuing MSDS:** HSE Department - Bracco Group

· **Contact:** Ing. Daniela Arnoldi

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

· **Sources**

- Database ChemGes®

- Sax, I. : Dangerous Properties of Industrial Material, 8th Ed.

- Sintetica SA - Centre de Recherche de Geneve (1991-1992)

- Final reports of studies on:

The mutagenic potential of 34 Chemical substances - MUTA 1-91

The acute oral toxicity of 34 chemical substances in the rat (limit test at 2000 mg/kg) - TOX BR-91-01-BG

The acute dermal toxicity of 34 chemical substances in the rat (limit test at 2000 mg/kg) - TOX 1-91

- Schede tecniche di sicurezza fornitori (Rhône Poulenc), RHODIA

- Catalogo Aldrich Chimica, 1997

- Catalogo Merck, 2003

- U.S. Atomic Energy Commission Report COO-1770-6, 23 "Inhalation exposure of mice to an aerosol of Gadolinium Oxide"

· *** Data compared to the previous version altered.**

- data updating on the basis of the latest amendments.

- adaptation of the form according to Regulation 1907/2006/CE.

GB