

Material Safety Data Sheet
acc. to ISO/DIS 11014

Printing date 11/02/2011

Version: 3.0

Reviewed on 11/02/2011

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

- **Product identifier**
- **Trade name: LUDOX® TM-50**
- **Application of the substance / the preparation:**
Intermediate product of varied applicability in industry and trade.
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
GRACE Davison
W. R. Grace & Co.-Conn
7500 Grace Drive
Columbia MD 21044
U. S. A.
- **Information department:**
Health and Safety (9 AM to 5 PM-EST) 1-410-531-4000
MSDS.Davison@grace.com
- **Emergency telephone number:**
Transportation Emergency (24 hr): Chemtrec +1-800-424-9300
Transportation Emergency (24 hr - outside of the USA): Chemtrec +1-703-527-3887
Other Emergencies (24 hr): +1-410-531-4000

2 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Water colloidal suspension of amorphous silica.

- **CAS No. and description:**

7732-18-5	water, distilled, or of similar purity
7631-86-9	amorphous silicon dioxide, chemically prepared

- **CAS No. & List of Dangerous Components** None

3 Hazards identification

- **Classification of the substance or mixture**
- **Classification system:**
The classification was made according to the latest editions of international substances lists.
- **Label elements**
- **Hazard description:**
- **WHMIS-symbols:** Not a WHMIS controlled product according to the classification criteria.
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 1
Fire = 0
Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



Health = 1
Fire = 0
Reactivity = 0

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Trade name: **LUDOX® TM-50**· **Other hazards**

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4 First aid measures

- **General information:**
Immediately remove contaminated clothing if necessary to prevent direct skin contact.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**
Immediately flush skin with water for at least 15 minutes.
Generally the product does not irritate the skin.
Remove contaminated clothing immediately.
- **After eye contact:**
Flush opened eye with large quantities of running water for at least 15 minutes. If symptoms occur, consult a doctor.
- **After swallowing:** Seek medical attention. Do not induce vomiting.

5 Firefighting measures

- **Suitable extinguishing agents:**
The product is not flammable.
Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture**
No further relevant information available.
- **Protective equipment:** Wear personal protective equipment.
- **Additional information**
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Collect contaminated fire fighting water separately. It must not enter the sewage system.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective clothing.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Reference to other sections** No dangerous substances are released.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** Avoid formation of respirable particles.
- **Information about protection against explosions and fires:** The product is not flammable.
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Colloidal silica should be stored above 2 °C. Freezing temperatures can cause irreversible precipitation of the silica, therefore the product should be located in heated buildings. Avoid routine storage temperatures above 43 °C.
- **Information about storage in one common storage facility:** Store away from foodstuffs.

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- **Further information about storage conditions:** Protect from frost.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

- **Components with limit values that require monitoring at the workplace:**

7631-86-9 amorphous silicon dioxide, chemically prepared

IDLH ()	Short-term value: 3000 mg/m ³ IDLH: Immediately Dangerous to Life or Health
PEL ()	80/(%SiO ₂) mg/m ³ OSHA TWA for amorphous silica
REL ()	6 mg/m ³ NIOSH TWA
TLV ()	10* 5** mg/m ³ ACGIH TWA *Total dust **Respirable fraction

7732-18-5 water, distilled, or of similar purity

PEL ()	- OSHA TWA: NONE ESTABLISHED
TLV ()	- ACGIH TWA: NONE ESTABLISHED

1310-73-2 sodium hydroxide

PEL ()	2 mg/m ³
REL ()	Short-term value: C 2 mg/m ³
TLV ()	Short-term value: C 2 mg/m ³

- **Additional information:** Valid lists at time of creation were used as basis.
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
The usual precautionary measures for handling chemicals should be followed.
Do not breathe dust or spray mist.
Do not eat, drink, smoke or sniff while working.
- **Breathing equipment:**
Required if the Occupational Exposure Limit (OEL) value is exceeded. As appropriate for the employee exposure, use a NIOSH approved respirator and cartridge.
- **Protection of hands:**



Protective gloves

Check protective gloves prior to each use for their proper condition.
Check the permeability prior to each new use of the glove.
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
Use gloves of stable material (e.g. Nitrile)

- **Material of gloves**
Butyl rubber, BR
Nitrile rubber, NBR

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Recommended thickness of the material: ≥ 0.35 mm

- **For the permanent contact in work areas without heightened risk of injury (e.g. Laboratory) gloves made of the following material are suitable:**

Butyl rubber, BR
Nitrile rubber, NBR

- **Not suitable are gloves made of the following materials:**

Leather gloves
Strong fabric gloves

- **Eye protection:**



Safety glasses

- **Body protection:** Protective work clothing

9 Physical and chemical properties

- **General Information**

- **Appearance:**

Form: Fluid
Color: Cloudy

- **Odor:** Odorless

- **pH-value at 25°C (77 °F):** 9.0 - 10.5

- **Change in condition**

Melting point/Melting range: 0°C (32 °F) (water)

Boiling point/Boiling range: 100°C (212 °F) (water)

- **Flash point:** Not applicable.
- **Ignition temperature:** Not applicable.

- **Auto igniting:** Product is not self-igniting.

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

- **Density at 20°C (68 °F):** 1.3-1.4 g/cm³ (10.849-11.68 lbs/gal)

- **Viscosity:**
Dynamic at 25°C (77 °F): max. 9 mPas

- **Other information** No further relevant information available.

10 Stability and reactivity

- **Chemical stability** No decomposition if used according to specifications.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

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11 Toxicological information· **Acute toxicity:**· **LD/LC50 values that are relevant for classification:****7631-86-9 amorphous silicon dioxide, chemically prepared**

Oral	LD50	>5000 mg/kg (rat) (OECD 401) ECHA 2011
Dermal	LD50	> 5000 mg/kg (rabbit)
Inhalative	LC0	>140->2000 mg/m ³ /4h (rat) (OCED 403) Maximum attainable concentration, mortality does not appear.

· **Primary irritant effect:**· **on the skin:**

May cause irritation with dryness and abrasion.

7631-86-9 amorphous silicon dioxide, chemically prepared

Irritation of skin	IS	not irritating (rabbit) (OECD 404) ECHA 2011
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· **on the eye:**

No irritating effect.

7631-86-9 amorphous silicon dioxide, chemically prepared

Irritation of eyes	IS	not irritating (rabbit) (OECD 405) ECHA 2011
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· **Sensitization:** No sensitizing effects known.· **Other information (about experimental toxicology):****7631-86-9 amorphous silicon dioxide, chemically prepared**

Oral	NOAEL	≥1340 mg/kg/day (mouse) (OECD 414) maternal and development toxicity
	AMES Test	>5 mg/plate (in-vitro) (OECD 471) negative with and without metabolic activation

· **Subacute to chronic toxicity:**

Amorphous silicon dioxide, chemically prepared:

No negative effects were determined during tests for chronic oral toxicity, carcinogenicity, teratogenicity and fertility. No irreversible changes and no symptoms of silicosis were determined during tests for chronic inhalative toxicity.

7631-86-9 amorphous silicon dioxide, chemically prepared

Oral	NOAEL (90 d)	9000 mg/kg (rat) (OECD 408)
Inhalative	NOAEC (90 d)	1 mg/m ³ (rat)

· **Additional toxicological information:**

The product is not subject to classification according to internally approved calculation methods for preparations:

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

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12 Ecological information

- **Aquatic toxicity:**

- **Fish toxicity**

7631-86-9 amorphous silicon dioxide, chemically prepared

LC0 (96 h) (static)	10000 mg/l (zebra fish) (OECD 203) ECHA 2011
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- **Water flea toxicity**

7631-86-9 amorphous silicon dioxide, chemically prepared

EC50 (24 h)	> 1000 mg/l (Daphnia magna) (OECD 202) ECHA 2011
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- **Algae toxicity**

7631-86-9 amorphous silicon dioxide, chemically prepared

EC50 (72 h)	> 10000 mg/l (Scenedesmus subspicatus) (OECD 201) comparable substance
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- **Persistence and degradability** No further relevant information available.

- **Other information:** Amorphous silica dioxide is chemically and biologically inert.

- **Behavior in environmental systems:**

- **Bioaccumulative potential** No further relevant information available.

- **Mobility in soil** No further relevant information available.

- **Additional ecological information:**

- **General notes:** Do not allow product to reach ground water, water course or sewage system.

13 Disposal considerations

- **Waste treatment methods**

- **Recommendation:**

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14 Transport information

- **UN-Number**

- **DOT, ADR, ADN, IMDG, IATA** None

- **UN proper shipping name**

- **DOT, ADR, ADN, IMDG, IATA** None

- **Transport hazard class(es)**

- **DOT, ADR, ADN, IMDG, IATA**

- **Class** None

- **Packing group**

- **DOT, ADR, IMDG, IATA** None

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- | | |
|--|--|
| · Environmental hazards: | |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · Transport/Additional information: | Not dangerous according to the above specifications.
GRACE recommendation for air transport: Cargo aircraft only. |

15 Regulatory information

- **SARA**

- **SARA 302/304**

None of the ingredients is listed.

- **SARA 313**

None of the ingredients is listed.

- **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

- **Proposition 65**

- **Chemicals known to cause cancer:**

None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

- **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

- **IARC (International Agency for Research on Cancer)**

None of the ingredients are listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

- **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

- **Canadian DSL**

All ingredients are listed.

- **Canadian NDSL**

None of the ingredients is listed.

- **European EINECS**

All ingredients are listed.

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<ul style="list-style-type: none"> · Philippines Inventory of Chemicals and Chemical Substances PICCS

All ingredients are listed.

<ul style="list-style-type: none"> · Inventory of the Existing Chemical Substances manufactured or imported in China IECSC
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All ingredients are listed.

<ul style="list-style-type: none"> · Australian Inventory of Chemical Substances AICS

All ingredients are listed.

<ul style="list-style-type: none"> · Existing and New Chemical Substance List ENCS
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7631-86-9	amorphous silicon dioxide, chemically prepared	1-548
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7732-18-5	water, distilled, or of similar purity	
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<ul style="list-style-type: none"> · Korean Existing Chemical Inventory KECI
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7631-86-9	amorphous silicon dioxide, chemically prepared	KE-31032
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7732-18-5	water, distilled, or of similar purity	KE-35400
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- **Product related hazard informations:**

- **Safety phrases:**

Do not empty into drains.

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.

- **Department issuing MSDS:** GRACE Davison Safety & Health Department

- **Tarif number** 38249097

- **Contact:**

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SALES OFFICES

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