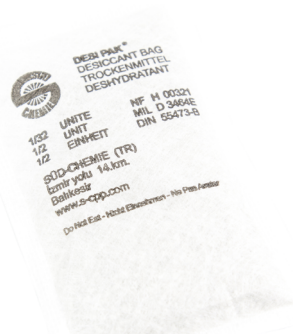




90668



204518



204519

- Desiccant packs are used to absorb moisture from a given environment. They prevent objects within that environment from being affected by corrosion or mould growth.
- They are especially useful when used in conjunction with [Moisture Barrier Bags](#) and [Humidity Indicator Cards](#) whenever moisture control is a critical factor in the packaging of sensitive devices.
- Desiccant packs are supplied ready to use in strong polybags within cartons.
- If left outside a closed/sealed container for any length of time, e.g. lying on a work bench, they will absorb moisture from the atmosphere and eventually become saturated.
- When using desiccant packs they should be left in the sealed polybag as supplied until required for use. The polybag should only be opened to remove the packs required and then resealed as soon as possible. It is recommended that opened polybags are put into an airtight metal or plastic drum or pail.
- It is recommended that packs are left in the open atmosphere for no longer than 15 seconds; however, desiccant in bags can be regenerated. See detailed [method](#).
- Meets MIL-D-3464E, DIN55473A & B and Afnor 003211 requirements.
- Formula to calculate required weight of absorbent in gr: $W=11ARM$ (Applies in temperate climates only)
 - ▶ A = area in m² of bag
 - ▶ R = MVTR (Moisture Vapour Transmission Rate) of the barrier film in g/m² 24h (at rH and temperature pertinent to your application)
 - ▶ M = maximum transit and storage time in months

"It is extremely important to understand the environment in which the product will be shipped and how it will be handled in order to determine the correct type of packaging that should be used."

[CLC/TR 61340-5-2 User guide Clause 4.8.3.2 Understand the distribution environment]

"High humidity is known to cause multiple problems with electronic parts, not the least of which is enhanced corrosion. Difficulties with soldering are also well known and documented. Preventing excessive humidity exposure to parts requires enclosing the parts in a barrier material. Typically, a barrier material should have a water vapour transmission rate (WVTR) of less than 0,02 g/645cm² per 24 h."

[CLC/TR 61340-5-2 User guide Clause 4.8.3.2.1 Humidity]

Desi Pak® is a registered trademark of Süd-Chemie.

Use our [Desiccant Requirement Calculator](#) to determine the amount of Desiccant required for your application.

Item	Description
204518	Desiccant, 1/2 Unit (10g) 65 x 80mm, Pack of 780
204519	Desiccant, 1 Unit (25g) 50 x 101mm, Pack of 350
90668	Desiccant, 1 Unit (25g) 50 x 101mm, Pack of 450

Unless otherwise noted, tolerance ±10%
Specifications and procedures subject to change without notice.

Made in Turkey and the United States of America

DESCO EUROPE

Desiccant

DESCO EUROPE
2A DUNHAMS LANE, LETCHWORTH GARDEN CITY,
HERTFORDSHIRE, SG6 1BE, UK
PHONE: +44 (0) 1462 672005
E-MAIL: Service@DescoEurope.com, INTERNET: DescoEurope.com

Drawing Number
204518

DATE:
March
2018

DESCO EUROPE SAFETY DATA SHEET

May be used to comply with ANSI Z400.1-2004, 29 CFR 1910.1200, and Globally Harmonized System (US Hazcom, (EU) No.453/2010 and Japan JIS 7253:2012). Standards must be consulted for specific requirements.

Revision Date: 2018-03-01

SECTION 1 — IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifiers

Product Name: Desi Pak
EC No.: 215-108-5
REACH Registration No.: EXEMPTED ACCORD. ANNEX V.7
CAS No.: 1302-78-9

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

Identified use: Desiccant

1.3 Details of the supplier of the safety data sheet

Supplier: Desco Europe
United Kingdom
2A Dunhams Lane
Letchworth Garden City
Hertfordshire, SG6 1BE, UK
+44 (0) 1462 672005

Email Address: Service@DescoEurope.com

1.4 Emergency telephone number

Emergency Number: +44 (0) 1462 672005

SECTION 2 — HAZARDS IDENTIFICATION

2.1 Classification of substance or mixture

Classification according CLP regulation (Regulation (EC) No. 1272/2008, as amended)

Not classified, Bentonite does not meet the criteria for classification.

Classification according EC Directive (67/548/EEC or 1999/45/EC, as amended)

Not classified, Bentonite does not meet the criteria for classification.

2.2 Label elements

Labelling according CLP regulation (Regulation (EC) No. 1272/2008, as amended)

Not a dangerous substance according to GHS.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. The product contains less than 1% w/w RCS (respirable crystalline silica).

Depending on the handling and use (grinding, drying, bagging), airborne respirable dust may be generated. Dust contains respirable crystalline silica. Prolonged and or massive inhalation of respirable crystalline silica dust may cause lung fibrosis, commonly referred to as silicosis. Principal symptoms of silicosis are cough and breathlessness. Occupational exposure to respirable dust should be monitored and controlled. The product should be handled using methods and techniques that minimize or eliminate dust generation.

No release of desiccant clay dusts expected under normal use of the desiccant clay bags.

The information contained in chapters 6, 7 and 8 are to be considered only in case of accidental release of larger quantities.

The substance does not meet the criteria for PBT or vPvB substance.

SECTION 3 — COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Chemical characterization

Synonyms: Bentonite, sodian; Bentonite, calcian; Montmorillonite. Desiccant clay packed in desiccant bags. Bentonite is a UVCB substance, sub-type 4. The purity of the product is 100 % w/w. Impurities are not applicable for a UVCB substance.

CAS number : 1302-78-9

EC number: 215-108-5

SECTION 4 — FIRST AID MEASURES

4.1 Description of first aid measures

General information	No known delayed effects. Consult a physician for all exposures except for minor instances.
If inhaled	Remove to fresh air immediately. Get medical attention immediately.
In case of skin contact	Wash off immediately with soap and plenty of water.
In case of eye contact	Rinse thoroughly with plenty of water, also under the eyelids. If symptoms persist, call a physician.
If swallowed	Clean mouth with water and drink afterwards plenty of water.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms	There are no acute and delayed symptoms and effects observed.
Hazards	No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment	Treat symptomatically.
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SECTION 5 — FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing Media	The product itself does not burn. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray jet Dry powder Foam Carbon dioxide (CO ₂)
Unsuitable Extinguishing Methods	No restriction

5.2 Special hazards arising from the substance or mixture

The material is not flammable and it does not sustain combustion. No hazardous thermal decomposition products.

5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.
Special sliding risk through leaking of spilled product in connection with water.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.
Avoid dust formation; avoid dry sweeping. Use vacuum suction unit, or shovel into bags.
Evacuate personnel to safe areas.
Avoid contact with skin, eyes and clothing.
Wear personal protective equipment.
Avoid breathing dust.
Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust).
Special sliding risk through leaking of spilled product in connection with water.

6.2 Environmental precautions

No special environmental precautions required.

6.3 Methods and materials for containment and cleaning up

Pick up and transfer to properly labelled containers.

If product is released from trucks in roads, place signposts and remove the spill using vacuum cleaning systems.

6.4 Reference to other sections

See SECTION 8 and SECTION 13.

SECTION 7 — HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling

Avoid dust formation.

Provide sufficient air exchange and/or exhaust in work rooms.

In case of insufficient ventilation, wear suitable respiratory equipment.

For personal protection see SECTION 8.

Handle and open container with care.

If you require advice on safe handling techniques or specific uses, please contact your supplier or check the further information referred to in SECTION 16.

Hygiene measures

Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

Minimize airborne dust generation and prevent wind dispersal during loading and unloading. Keep containers closed and store packaged products so as to prevent accidental bursting.

Advice on storage compatibility

No conditions to be specially mentioned.

Storage stability

Stable under recommended storage conditions.

7.3 Specific end uses

Not relevant

SECTION 8 — EXPOSURE CONTROL / PERSONAL PROTECTION

8.1 Control parameters

Exposure limit values

Bentonite (dust)

Components	CAS-No.	Type of value	Control parameters	Basis
Bentonite (Dust)			10 mg/m ³	Nepsi (European Network on Silica)
			3 mg/m ³	Nepsi (European Network on Silica)

8.2 Exposure controls

Engineering measures

Minimize airborne dust generation. Use process enclosures, local exhaust ventilation or other engineering controls to keep airborne levels below specified exposure limits. If user operations generate dust, fumes or mist, use ventilation to keep exposure to airborne particles below the exposure limit. Apply organizational measures e.g. by isolating personnel from dusty areas. Remove and wash soiled clothing.

Personal protective equipment

Respiratory protection

Local ventilation to keep levels below established threshold values is recommended. In case of prolonged exposure to airborne dust concentrations, a suitable particle filter mask that complies with the requirements of national legislation is recommended, depending on the expected exposure levels.

Hand protection

Use a high fat protective cream after cleaning skin.
Wear suitable gloves.

Eye protection	Do not wear contact lenses. Safety glasses with side-shields Ensure that eyewash stations and safety showers are close to the workstation location.
Body protection	Long sleeved clothing

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	lumpy, granular, powder
Color:	bright to earthy
Odor:	None
Odor Threshold:	Not determined
pH:	6.0 - 11.0 (20°C) Method: aquaous suspension
Melting point/range:	> 450°C Method: EU A.1
Boiling point/boiling range:	not applicable (solid with a melting point > 450°C)
Flash point:	Not applicable
Evaporation rate:	Not applicable
Flammability (solid, gas):	Does not ignite Method: EU A.1
Self-ignition:	Method: 92/69/EEC, A.6. No relative self-ignition temperature below 400°C
Upper explosion limit:	Not applicable
Lower explosive limit:	Non explosive (void of any chemical structures commonly associated with explosive properties)
Vapor pressure:	not applicable (solid with a melting point > 450°C)
Vapor density relative to air:	Non applicable
Density:	2,6 g/cm ³
Bulk density:	500 - 1.100 kg/m ³
Solubility (Water):	< 0.9 g/l (20°C) Method: Tested according to Directive 92/69/EEC.
Partition coefficient (n-octanol/water):	No applicable inorganic
Auto-ignition temperature:	Not determined
Decomposition temperature:	No decomposition if used as directed.
Viscosity (dynamic):	Not applicable
Viscosity (kinematic):	Not applicable
Oxidizing properties:	No oxidizing properties (Based on the chemical structure, the substance does not contain a surplus of oxygen or any structural groups known to be correlated with a tendency to react exothermally with combustible material).

9.2 Other information

No data available.

SECTION 10 — STABILITY AND REACTIVITY

10.1 Reactivity

Stable under recommended storage conditions.

10.2 Chemical stability

The product is chemically stable.

10.3 Possibility of hazardous reactions

None known.

10.4 Conditions to avoid

Forms slippery/greasy layers with water.

10.5 Incompatible materials

Inert, not reactive

Avoid storing together with materials that may be affected by dust.

10.6 Hazardous decomposition products

Not relevant.

SECTION 11 — TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Information on likely routes of exposure

Eye contact.

Ingestion

Acute toxicity

Acute oral toxicity

LD50 (Rat): > 2 g/kg

Method: OECD Test Guideline 420

Acute inhalation toxicity

No data available

Acute dermal toxicity

No data available

Bentonite is almost insoluble and has a low absorption through the skin.

Skin corrosion/irritation

Species: Rabbit

Method: OECD Test Guideline 404

Result: No skin irritation

Serious eye damage/eye irritation

Species: Rabbit

Method: OECD Test Guideline 405

Result: No skin irritation

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

Genotoxicity in vitro

Test Type: In vitro gene mutation study in bacteria

Method: OECD Test Guideline 471

Result: negative

Test Type: Chromosome aberration test in vitro

Method: OECD Test Guideline 473

Result: negative

Test Type: In vitro gene mutation study in mammalian cells

Method: OECD Test Guideline 476

Result: negative

Carcinogenicity

Based on available data, the classification criteria are not met.

Reproductive toxicity

Based on available data, the classification criteria are not met.

STOT - Single exposure

No organ toxicity observed in acute tests.

Aspiration toxicity

No aspiration toxicity classification.

Specific symptoms in animal studies (likely route of exposure):

In case of ingestion:

No acute or long term effects were seen in animal studies following oral exposure.

In case of skin contact:

No acute effects were seen in an animal study following acute dermal exposure.
Bentonite is not a skin irritant

In case of inhalation:

No acute effects were seen in an animal study following acute inhalation exposure.

Bentonite contains crystalline silica, which is a known cause of silicosis, a progressive, sometimes fatal lung disease. In a 1997 monograph (Volume 68, "Silica, Some Silicates, Coal Dust and Para-aramid Fibrils"), the International Agency for Research on cancer (IARC) has classified "inhaled crystalline silica from occupational sources" in Group 1 as a substance "carcinogenic to humans". In making the overall evaluation, the IARC Working Group noted that carcinogenicity in humans was not detected in all industrial circumstances studied. Crystalline silica has also been classified by the German MAK Commission as a human carcinogen (Category A1).

Although bentonite contains quartz, an intratracheal study (Creutzenberg 2008) on the read across substance bentonite demonstrated significant differences in toxicity following administration of equivalent doses of quartz as either bentonite (15.2 mg of bentonite with 60% quartz) or reference quartz (10.5 mg of 87% quartz). The reference-quartz caused significant, self-perpetuating lung toxicity while bentonite demonstrated significantly less toxicity and partial recovery during the study period. The main effect of bentonite was slight fibrosis and inflammation of the lung. The study demonstrated that a simple bridging of toxicity data from quartz to bentonite is not appropriate.

Occupational exposure to respirable dust should be monitored and controlled

SECTION 12 — ECOLOGICAL INFORMATION

12.1 Toxicity

Information related to the product itself:

Fish toxicity	LC50 (Oncorhynchus mykiss (rainbow trout)): 16 g/l Exposure time: 96 h LC50 (Marine water fish): 2,8 - 3,2 g/l Exposure time: 24 h
Daphnia toxicity	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 EC50 (Metacarcinus magister): 81,6 mg/l Exposure time: 96 h EC50 (Pandalus danae): 24,8 mg/l Exposure time: 96 h
Algae toxicity	EC50 (Desmodesmus subspicatus (Scenedesmus subspicatus)): > 100 mg/l Exposure time: 72 h
Toxicity to terrestrial plants	84,4 mg/kg Species: Phaseolus vulgaris Remarks: No effect on the growth was observed. 84,4 mg/kg Species: Zea mays Remarks: No effect on the growth was observed.

12.2 Persistence and degradability

Biodegradability	The methods for determining biodegradability are not applicable to inorganic substances.
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12.3 Bioaccumulative potential

Bioaccumulation	Not relevant for inorganic substances
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12.4 Mobility in soil

Distribution among environmental compartments

Medium: Soil
Remarks: Bentonite is almost insoluble and thus presents a low mobility in most soils.

12.5 Results of PBT and vPvB assessment

Assessment This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

Additional ecotoxicological remarks None

SECTION 13 — DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product Can be disposed of as solid waste in a suitable installation subject to the Environmental Protection (Duty of Care) Regulations.
Avoid dust formation.
Where possible recycling is preferred to disposal or incineration.

Contaminated packaging No specific requirements.

SECTION 14 — TRANSPORT INFORMATION

ADR Not restricted
ADN Not restricted
RID Not restricted
IATA Not restricted
IMDG Not restricted

14.1 UN Number N/A
14.2 UN proper shipping name N/A
14.3 Transport hazard class(es) N/A
14.4 Packing group N/A
14.5 Environmental hazards N/A
14.6 Special precautions for user See SECTIONS 6 to 8 of this Safety Data Sheet.
14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code No transport as bulk according IBC - Code.

SECTION 15 — REGULATORY INFORMATION

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

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals Not applicable
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer Not applicable
Regulation (EC) No 850/2004 on persistent organic pollutants Not applicable
Water Hazard Class (Ger.) Not water endangering

Other regulations

Bentonite is not a SEVESO substance, not an ozone depleting substance and not a persistent organic pollutant.

The product (bentonite) is not separately classified by the Occupational Health and Safety Administration (OSHA). The product has not been classified as a human carcinogen by OSHA, the International Agency for Research on Cancer (IARC) and the National Toxicology Program (NTP).

15.2 Chemical Safety Assessment Not relevant

SECTION 16 — OTHER INFORMATION

Social Dialogue on Respirable Crystalline Silica:

A multi-sectoral social dialogue agreement on Workers Health Protection through the Good Handling and Use of Crystalline Silica and Products Containing it was signed on 25 April 2006. This autonomous agreement, which receives the European Commission's financial support, is based on a Good Practices Guide. The requirements of the Agreement came into force on 25 October 2006. The Agreement was published in the Official Journal of the European Union (2006/C 279/02). The text of the Agreement and its annexes, including the Good Practices Guide, are available from <http://www.nepsi.eu> and provide useful information and guidance for the handling of products containing respirable crystalline silica. Literature references are available on request from EUROSIL, the European Association of Industrial Silica Producers.

HMIS RATING Health 0, Flammability 0, Reactivity 0, Personal Protection B

NFPA RATING Special Hazard: N/A, Health: 0, Flammability: 0, Instability: 0

SDS Updated 2018-03-01

Disclaimer

OTHER INFORMATION: This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process. Such information is to the best of the company's knowledge and believed accurate and reliable as of the date indicated. However, no representation, warranty or guarantee of any kind, express or implied, is made as to its accuracy, reliability or completeness and we assume no responsibility for any loss, damage or expense, direct or consequential, arising out of use. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use.