

Barium chloride dihydrate

31125-1KG

Version 2.3

Revision Date 17.12.2022

Supersedes 1

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

1.1. Product identifier

Product name : Barium chloride dihydrate
SDS-number : 000000021154
Type of product : Substance
Remarks : SDS according to Art. 31 of Regulation (EC) 1907/2006.
Chemical name : Barium chloride dihydrate
Index-No. : 056-004-00-8
REACH Registration Number : no data available

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

Use of the Substance/Mixture : Laboratory chemicals
Uses advised against : none

1.3. Details of the supplier of the safety data sheet

Company	: Honeywell International Inc. 115 Tabor Road 07950-2546 Morris Plains USA	Honeywell International, Inc. 115 Tabor Road Morris Plains, NJ 07950-2546 USA
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Telephone :
For further information, please contact: : SafetyDataSheet@Honeywell.com

1.4. Emergency telephone number

Emergency telephone number : +1-703-527-3887 (ChemTrec-Transport)
+1-303-389-1414 (Medical)
Country based Poison : see chapter 15.1

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Control Center

SECTION 2: Hazards identification


2.1. Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Acute toxicity Category 3 - Oral
H301 Toxic if swallowed.
Acute toxicity Category 4 - Inhalation
H332 Harmful if inhaled.
Eye irritation Category 2
H319 Causes serious eye irritation.

2.2. Label elements

REGULATION (EC) No 1272/2008

Hazard pictograms	:	
Signal word	:	Danger
Hazard statements	:	H301 Toxic if swallowed. H319 Causes serious eye irritation. H332 Harmful if inhaled.
Precautionary statements	:	P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. P280 Wear protective gloves/protective clothing/eye protection/face protection. P284 Wear respiratory protection. P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308 + P313 IF exposed or concerned: Get medical advice/ attention.

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2.3. Other hazards

Results of PBT and vPvB assessment, see chapter 12.5.

SECTION 3: Composition/information on ingredients

3.1. Substance

Chemical name	CAS-No. Index-No. REACH Registration Number EC-No.	Classification 1272/2008	Concentration	Remarks
Barium chloride dihydrate	10326-27-9 056-004-00-8 233-788-1	Acute Tox. 3; H301; Oral Acute Tox. 4; H332; Inhalation Eye Irrit. 2; H319	100 %	

3.2. Mixture

Not applicable

Occupational Exposure Limit(s), if available, are listed in Section 8.
For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice:

First aider needs to protect himself. Move out of dangerous area. Take off all contaminated clothing immediately.

Inhalation:

Remove to fresh air. If breathing is difficult, give oxygen. Use oxygen as required, provided a qualified operator is present. Call a physician.

Skin contact:

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Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Call a physician if irritation develops or persists.

Eye contact:

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician if irritation develops or persists.

Ingestion:

When swallowed, allow water to be drunk. Call a physician immediately.

4.2. Most important symptoms and effects, both acute and delayed

No data available

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

See Section 11 for more detailed information on health effects and symptoms.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Water spray
Foam
Carbon dioxide (CO₂)
Dry powder

Extinguishing media which shall not be used for safety reasons:

High volume water jet

5.2. Special hazards arising from the substance or mixture

The product is not flammable.

Heating can release vapours which can be ignited.

In case of fire hazardous decomposition products may be produced such as:

Toxic metal oxide fumes
Gaseous hydrogen chloride (HCl).

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5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit.
No unprotected exposed skin areas.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas. Wear personal protective equipment. Unprotected persons must be kept away. Ensure adequate ventilation.

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not flush into surface water or sanitary sewer system. Do not allow run-off from fire fighting to enter drains or water courses.

6.3. Methods and materials for containment and cleaning up

Use mechanical handling equipment.
Pick for disposal in tightly closed containers
Personal protection through wearing a tightly closed chemical protection suit and a self-contained breathing apparatus.

6.4. Reference to other sections

For personal protection see section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling:

Exhaust ventilation at the object is necessary. Wear suitable protective clothing and gloves.

Advice on protection against fire and explosion:

Normal measures for preventive fire protection.

Hygiene measures:

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Take off all contaminated clothing immediately. Remove and wash contaminated clothing before re-use. Keep working clothes separately. Separate rooms are required for washing, showering and changing clothes. Wash hands before breaks and at the end of workday. When using do not eat or drink.

7.2. Conditions for safe storage, including any incompatibilities

Further information on storage conditions:

Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place.

7.3. Specific end use(s)

no additional data available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits:

Components	Basis / Value type	Value / Form of exposure	Exceeding Factor	Remarks
Barium chloride dihydrate	EH40 WEL TWA	0,5 mg/m3 as Ba		
Barium chloride dihydrate	EH40 WEL	as Ba		Listed
Barium chloride dihydrate	EU ELV TWA	0,5 mg/m3 as Ba		Indicative

TWA - Time weighted average

DNEL/ PNEC-Values

Component	End-use/impact	Exposure duration	Value	Exposure routes	Remarks
Barium chloride dihydrate	Workers / Long-term systemic effects		8,8 mg/m3	Inhalation	
Barium chloride dihydrate	Workers /		43,2mg/kg	Skin contact	

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	Long-term systemic effects		bw/d		
Barium chloride dihydrate	Consumers / Long-term systemic effects		2,6 mg/m3	Inhalation	
Barium chloride dihydrate	Consumers / Long-term systemic effects		25,9mg/kg bw/d	Skin contact	
Barium chloride dihydrate	Consumers / Long-term systemic effects		3,7mg/kg bw/d	Ingestion	

Component	Environmental compartment / Value	Remarks
Barium chloride dihydrate	Fresh water: 0,174 mg/l	
Barium chloride dihydrate	Sewage treatment plant: 94,3 mg/l	
Barium chloride dihydrate	Fresh water sediment: 908 mg/kg dw	
Barium chloride dihydrate	Soil: 314,9 mg/kg dw	

8.2. Exposure controls

Occupational exposure controls

The Personal Protective Equipment must be in accordance with EN standards:respirator EN 136, 140, 149; safety glasses EN 166; protective suit: EN 340, 463, 468, 943-1, 943-2; gloves EN 374, 511; safety shoes EN-ISO 20345.
Do not breathe dust.

Engineering measures

Use with local exhaust ventilation.

Personal protective equipment

Respiratory protection:

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In the case of dust or aerosol formation use respirator with an approved filter.

Hand protection:

Glove material: Natural Latex

Break through time: > 480 min

Glove thickness: 0,6 mm

Lapren®706

Gloves must be inspected prior to use.

Replace when worn.

Remarks: Supplementary note: The specifications are based on information and tests from similar substances by analogy.

Due to varying conditions (e.g.temperature or other strains) it must be considered that the usage of a chemical protective glove in practice may be much shorter than the permeation time determined in accordance with EN 374.

Since actual conditions of practical use often deviate from standardised conditions according EN 374 the glove manufacturer recommends to use the chemical protective glove in practice not longer than 50% of the recommended permeation time.

Manufacturer's directions for use should be observed because of great diversity of types .

Suitable gloves tested according EN 374 are supplied e.g. from KCL GmbH, D-36124 Eichenzell, Vertrieb@kcl.de

Eye protection:

Safety goggles

Skin and body protection:

Wear suitable protective equipment.

Wear as appropriate:

Protective suit

Environmental exposure controls

Handle in accordance with local environmental regulations and good industrial practices.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : solid

Colour : colourless

Odour : odourless

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molecular weight : 244,26 g/mol

Melting point/range : 962 °C

Boiling point/boiling range : 1.560 °C
at 1.013 hPa

Flammability : The product is not flammable.

Upper explosion limit : Not applicable

Lower explosion limit : Not applicable

Flash point : Not applicable

Auto-ignition temperature : Not applicable

Decomposition temperature : 113 °C
Decomposition temperature
with dehydration

pH : 5,2 - 8,0
Concentration: 50 g/l
at 25 °C

Auto-ignition temperature : not auto-flammable

Viscosity, kinematic : No data available

Water solubility : 269 g/l
at 25 °C
completely soluble

Partition coefficient: n-
octanol/water : No data available

Vapour pressure : No data available

Density : 3,1 g/cm³
at 20 °C

Density : 3,100 g/cm³

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Bulk density : ca. 2.200 kg/m³

Relative vapour density : No data available

9.2 Other Information

Evaporation rate : No data available

Viscosity, dynamic : No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under recommended storage conditions.

10.2. Chemical stability

113 °C
Decomposition temperature
with dehydration

10.3. Possibility of hazardous reactions

Hazardous polymerisation does not occur.

10.4. Conditions to avoid

Avoid dust formation.

10.5. Incompatible materials

Incompatible with acids.

10.6. Hazardous decomposition products

Fire may cause evolution of:

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Toxic metal oxide fumes
Gaseous hydrogen chloride (HCl).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity:

Classification based on Annex VI of regulation 1272/2008/EC.

Acute dermal toxicity:

No data available

Acute inhalation toxicity:

LC50

Species: Rat

Value: > 1,1 mg/l

Exposure time: 243 min

Method: OECD Test Guideline 403

Skin irritation:

Species: reconstructed human epidermis (RhE)

Result: No skin irritation

Method: Regulation (EC) No. 440/2008, Annex, B.46

Eye irritation:

Species: Rabbit

Result: Irritating to eyes.

Method: OECD Test Guideline 405

Respiratory or skin sensitisation:

Mouse local lymph node assay

Species: Mouse

Result: non-sensitizing

Method: OECD Test Guideline 429

Repeated dose toxicity:

Note: Not classified due to data which are conclusive although insufficient for classification.

Carcinogenicity:

Note: Not classified due to data which are conclusive although insufficient for classification.

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Germ cell mutagenicity:

Test Method: gene mutation test

Metabolic activation: with and without metabolic activation

Result: negative

Method: OECD Test Guideline 471

Test Method: Chromosome aberration test in vitro

Metabolic activation: with and without metabolic activation

Result: negative

Method: OECD Test Guideline 473

Test Method: In vitro gene mutation study in mammalian cells

Cell type: Mouse lymphoma cells

Metabolic activation: with and without metabolic activation

Result: negative

Method: OECD Test Guideline 476

Reproductive toxicity:

Remarks: Not classified due to data which are conclusive although insufficient for classification.

Aspiration hazard:

No data available

11.2. Information on other hazards

Endocrine disrupting properties

No data available

Other information:

No data available

SECTION 12: Ecological information

12.1. Toxicity

Toxicity to fish:

LC50

static test

Species: Danio rerio (zebra fish)

Value: > 174 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

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Toxicity to aquatic plants:

Not classified due to data which are conclusive although insufficient for classification.

Toxicity to aquatic invertebrates:

Not classified due to data which are conclusive although insufficient for classification.

12.2. Persistence and degradability

Biodegradability:

The methods for determining biodegradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

Not applicable

12.6. Endocrine disrupting properties

No data available

12.7. Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product:

Dispose according to legal requirements.

Packaging:

Legal requirements are to be considered in regard of reuse or disposal of used packaging materials

Further information:

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Provisions relating to waste:
EC Directive 2006/12/EC; 2008/98/EEC
Regulation No. 1013/2006

For personal protection see section 8.

SECTION 14: Transport information

14.1 UN number

ADR/RID:1564

IMDG:1564

IATA:1564

14.2 UN proper shipping name

ADR/RID:BARIUM COMPOUND, N.O.S.(BARIUM CHLORIDE)

IMDG:BARIUM COMPOUND, N.O.S.(BARIUM CHLORIDE)

IATA:Barium compound, n.o.s.(Barium chloride)

14.3 Transport hazard class(es)

ADR/RID: 6.1

IMDG: 6.1

IATA: 6.1

14.4 Packaging group

ADR/RID: III

IMDG: III

IATA: III

14.5 Environmental hazards

ADR/RID:no

Marine pollutant: no

14.6 Special precautions for user

No data available

14.7 Maritime transport in bulk according to IMO instruments

No data available

SECTION 15: Regulatory information

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

Basis	Value	Remarks
Directive 2012/18/EC		Not applicable
Substances of very high concern (SVHC)		This product does not contain substances of very high concern according to Regulation (EC) No

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		Article 57 above the respective regulatory 1907/2006 (REACH), concentration limit of ≥ 0.1 % (w/w).
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Poison Control Center

Country	Phone Number
Austria	+4314064343
Belgium	070 245245
Bulgaria	(+)35929154233
Croatia	(+3851)23-48-342
Cyprus	+357 2240 5611
Czech Republic	+420224919293; +420224915402
Denmark	82121212
Estonia	16662; (+372)6269390
Finland	9471977
France	+33(0)145425959
Greece	+30 210 779 3777
Hungary	(+36-80)201-199
Iceland	5432222
Ireland	+353(1)8092166
Italy	0382 24444
Germany	Berlin : 030/19240
	Bonn : 0228/19240
	Erfurt : 0361/730730
	Freiburg : 0761/19240
	Göttingen : 0551/19240
	Homburg : 06841/19240
	Mainz : 06131/19240
Munich : 089/19240	

Country	Phone Number
Liechtenstein	+41 442515151
Lithuania	+370532362052
Luxembourg	070245245; (+352)80002-5500
Malta	+356 2395 2000
Netherlands	030-2748888
Norway	22591300
Poland	+48 42 25 38 400
Portugal	800250250
Romania	+40 21 318 3606
Slovakia (NTIC)	+421 2 54 774 166
Slovenia	+386 1 400 6051
Spain	+34915620420
Sweden	112 (begär Giftnformation); +46104566786
Switzerland	145
United Kingdom	(+44) 844 892 0111

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Latvia	+37167042473
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Other inventory information

US. Toxic Substances Control Act
On TSCA Inventory

Australia. Inventory of Industrial Chemicals (AIIC), as amended
On the inventory, or in compliance with the inventory

Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL)
All components of this product are on the Canadian DSL

Japan. Kashin-Hou Law List
On the inventory, or in compliance with the inventory

Korea. Existing Chemicals Inventory (KECI)
On the inventory, or in compliance with the inventory

Philippines. Inventory of Chemicals and Chemical Substances (PICCS)
On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances (IECSC)
On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand
On the inventory, or in compliance with the inventory

Taiwan Chemical Substance Inventory (TCSI)
On the inventory, or in compliance with the inventory

15.2 Chemical safety assessment

A Chemical Safety Assessment has been carried out.

SECTION 16: Other information

Text of H-statements referred to under heading 3

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Barium chloride dihydrate : H301 Toxic if swallowed.
H332 Harmful if inhaled.
H319 Causes serious eye irritation.

Further information

All directives and regulations refer to amended versions.
Vertical lines in the left hand margin indicate a relevant amendment from the previous version.

Abbreviations:

EC European Community
CAS Chemical Abstracts Service
DNEL Derived no effect level
PNEC Predicted no effect level
vPvB Very persistent and very bioaccumulative substance
PBT Persistent, bioaccumulative und toxic substance

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The 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 process, unless specified in the text. Final determination of suitability of any material is the sole responsibility of the user.
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