

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Europium doped Calcium sulphide

Revision date: 13.10.2016

Product code:

Page 1 of 10

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Europium doped Calcium sulphide

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

Industry

Private households (= general public).

Uses advised against

any non-intended use.

1.3. Details of the supplier of the safety data sheet

Company name:	Dr. Falko Böttger-Hiller & Lars Ehrhardt Leuchtsto	
Street:	Kornmarkt 6	
Place:	D-4600 Altenburg	
Telephone:	+49 (0)151 55687366	
e-mail:	info@premium-leuchtstoffe.de	
Responsible Department:	Dr. Gans-Eichler Chemieberatung GmbH Raesfeldstr. 22 D-48149 Münster	e-mail: info@tge-consult.de Tel.: +49 (0)251/924520-60 www.tge-consult.de

1.4. Emergency telephone number:

+49 (0)151 55687366 This number is serviced during office hours.

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

Hazard categories:

Skin corrosion/irritation: Skin Irrit. 2

Serious eye damage/eye irritation: Eye Irrit. 2

Specific target organ toxicity - single exposure: STOT SE 3

Hazardous to the aquatic environment: Aquatic Acute 1

Hazard Statements:

Causes skin irritation.

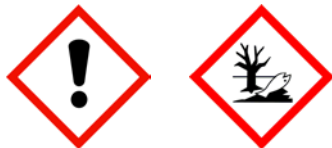
Causes serious eye irritation.

May cause respiratory irritation.

Very toxic to aquatic life.

2.2. Label elements**Regulation (EC) No. 1272/2008****Hazard components for labelling**

Europium doped calcium sulfid

Signal word: Warning**Pictograms:****Hazard statements**

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Europium doped Calcium sulphide

Revision date: 13.10.2016

Product code:

Page 2 of 10

H400 Very toxic to aquatic life.

Precautionary statements

P273 Avoid release to the environment.
 P337+P313 If eye irritation persists: Get medical advice/attention.
 P501 Dispose of contents/container to local/regional/national/international regulations.

2.3. Other hazards

This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

SECTION 3: Composition/information on ingredients

3.1. Substances

Sum formula: CaS:Eu

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
	Europium doped calcium sulfid			95 - < 100 %
	Skin Irrit. 2, Eye Irrit. 2, STOT SE 3, Aquatic Acute 1; H315 H319 H335 H400 EUH031			

Full text of H and EUH statements: see section 16.

Further Information

Product does not contain listed SVHC substances > 0,1 % according to Regulation (EC) No. 1907/2006 Article 59 (REACH)

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation

In case of accident by inhalation: remove casualty to fresh air and keep at rest. In case of respiratory tract irritation, consult a physician.

After contact with skin

Gently wash with plenty of soap and water. In case of skin irritation, seek medical treatment.

After contact with eyes

Rinse cautiously with water for several minutes. In case of troubles or persistent symptoms, consult an ophthalmologist.

After ingestion

Rinse mouth thoroughly with water. Let water be drunken in little sips (dilution effect). Do NOT induce vomiting. In all cases of doubt, or when symptoms persist, seek medical advice.

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

No information available.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Europium doped Calcium sulphide

Revision date: 13.10.2016

Product code:

Page 3 of 10

Suitable extinguishing mediaCarbon dioxide (CO₂). Dry extinguishing powder. alcohol resistant foam. Atomized water.**Unsuitable extinguishing media**

High power water jet.

5.2. Special hazards arising from the substance or mixtureCan be released in case of fire: Carbon monoxide, Carbon dioxide (CO₂), Sulfur oxides.**5.3. Advice for firefighters**

Wear a self-contained breathing apparatus and chemical protective clothing.

Additional informationCollect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.
Co-ordinate fire-fighting measures to the fire surroundings.**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**Avoid dust formation.
Do not breathe dust.
Wear personal protection equipment (refer to section 8).**6.2. Environmental precautions**

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning upTake up mechanically.
Treat the recovered material as prescribed in the section on waste disposal.
Clean contaminated articles and floor according to the environmental legislation.
Conditions to avoid: Cleaning agent, acidic.**6.4. Reference to other sections**Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13**SECTION 7: Handling and storage****7.1. Precautions for safe handling****Advice on safe handling**

Wear personal protection equipment (refer to section 8).

Advice on protection against fire and explosion

Usual measures for fire prevention. Dust clouds may present an explosion hazard.

Further information on handlingAvoid generation of dust.
General protection and hygiene measures: refer to chapter 8**7.2. Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

Keep container tightly closed in a cool, well-ventilated place.

Advice on storage compatibility

Do not store together with: Explosives. Oxidizing solids. Oxidizing liquids. Radioactive substances. Infectious substances. Food and feedingstuffs.

Further information on storage conditionsKeep the packing dry and well sealed to prevent contamination and absorption of humidity.
Shelf Life (months): > 24
Protect against: Light. UV-radiation/sunlight. heat. moisture.**7.3. Specific end use(s)**

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Europium doped Calcium sulphide

Revision date: 13.10.2016

Product code:

Page 4 of 10

refer to chapter 1.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****8.2. Exposure controls****Appropriate engineering controls**

Dust should be exhausted directly at the point of origin.

Protective and hygiene measures

Always close containers tightly after the removal of product. When using do not eat, drink, smoke, sniff. Wash hands before breaks and after work.

Eye/face protection

Dust protection goggles.

Hand protection

In case of prolonged or frequently repeated skin contact:

Wear suitable gloves.

Suitable material:

FKM (fluororubber). - Thickness of glove material: 0,4 mm

Breakthrough time \geq 8 h

Butyl rubber. - Thickness of glove material: 0,5 mm

Breakthrough time \geq 8 h

CR (polychloroprenes, Chloroprene rubber). - Thickness of glove material: 0,5 mm

Breakthrough time \geq 8 h

NBR (Nitrile rubber). - Thickness of glove material: 0,35 mm

Breakthrough time \geq 8 h

PVC (Polyvinyl chloride). - Thickness of glove material: 0,5 mm

Breakthrough time \geq 8 h

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Before using check leak tightness / impermeability. In the case of wanting to use the gloves again, clean them before taking off and air them well.

Skin protection

Suitable protective clothing: Protective clothing.

Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500.

Respiratory protection

With correct and proper use, and under normal conditions, breathing protection is not required.

Respiratory protection necessary at: exceeding exposure limit values

Suitable respiratory protective equipment: particulates filter device (DIN EN 143). Type : P2/P3

Half-face mask or quarter facepiece: maximum use concentration for substances with exposure limits: P1 filter: up to a max. of 4 times the exposure limit. P2 filter: up to a max. of 10 times the exposure limit. P3 filter: up to a max. of 30 times the expo. Full-face mask or mouthpiece with particulate filter: maximum use concentration for substances with exposure limits: P1 filter: up to a max. of 4 times the exposure limit. P2 filter: up to a max. of 15 times the exposure limit. P3 filter: up to a max. of

The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

Environmental exposure controls

No special precautionary measures are necessary.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Europium doped Calcium sulphide

Revision date: 13.10.2016

Product code:

Page 5 of 10

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	solid, Powder
Colour:	light yellow, white
Odour:	characteristic

Test method

pH-Value:	7-8
-----------	-----

Changes in the physical state

Melting point:	not determined
Initial boiling point and boiling range:	not determined
Sublimation point:	not determined
Softening point:	not determined
Pour point:	not determined
Flash point:	not determined
Sustaining combustion:	Not sustaining combustion

Explosive properties

none

Lower explosion limits:	not determined
Upper explosion limits:	not determined
Ignition temperature:	not determined

Auto-ignition temperature

Solid:

not determined

Decomposition temperature:	not determined
----------------------------	----------------

Oxidizing properties

none

Vapour pressure:	not determined
------------------	----------------

Density:	3,6 g/cm ³
----------	-----------------------

Bulk density:	not determined
---------------	----------------

Water solubility:	insoluble
-------------------	-----------

Solubility in other solvents

insoluble

Partition coefficient:	not determined
------------------------	----------------

Viscosity / dynamic:	not determined
----------------------	----------------

Viscosity / kinematic:	not determined
------------------------	----------------

Flow time:	not determined
------------	----------------

Vapour density:	not determined
-----------------	----------------

Solvent content:	0%
------------------	----

9.2. Other information

Solid content:	100%
----------------	------

SECTION 10: Stability and reactivity

10.1. Reactivity

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Europium doped Calcium sulphide

Revision date: 13.10.2016

Product code:

Page 6 of 10

No information available.

10.2. Chemical stability

The product is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions

Reacts with : Acid.

10.4. Conditions to avoid

Protect against: moisture. UV-radiation/sunlight. heat.

10.5. Incompatible materials

Materials to avoid: Oxidizing agents, strong. Reducing agents, strong. Acid. Potassium chlorate. Potassium nitrate

10.6. Hazardous decomposition products

No information available.

SECTION 11: Toxicological information**11.1. Information on toxicological effects****Toxicokinetics, metabolism and distribution**

No data available.

Acute toxicity

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

No data available.

Irritation and corrosivity

Causes skin irritation.

Causes serious eye irritation.

No data available.

Sensitising effects

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

No data available.

Carcinogenic/mutagenic/toxic effects for reproduction

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

No data available.

STOT-single exposure

May cause respiratory irritation. (Europium doped calcium sulfid)

No data available.

STOT-repeated exposure

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

No data available.

Aspiration hazard

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

No data available.

Specific effects in experiment on an animal

No data available.

SECTION 12: Ecological information**12.1. Toxicity**

No data available.

12.2. Persistence and degradability

Poorly watersoluble, inorganic product. Can be mechanically precipitated to a large extent in biological sewage plants. The methods for determining the biological degradability are not applicable to inorganic substances. No data available.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Europium doped Calcium sulphide

Revision date: 13.10.2016

Product code:

Page 7 of 10

12.3. Bioaccumulative potential

No indication of bioaccumulation potential.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

12.6. Other adverse effects

No data available.

Further information

Do not allow to enter into surface water or drains.

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Advice on disposal**

Observe in addition any national regulations! Consult the local waste disposal expert about waste disposal.

Non-contaminated packages may be recycled.

According to EAKV, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process.

Control report for waste code/ waste marking according to EAKV:

Waste disposal number of waste from residues/unused products

160303 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; off-specification batches and unused products; inorganic wastes containing hazardous substances
Classified as hazardous waste.

Waste disposal number of used product

160303 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; off-specification batches and unused products; inorganic wastes containing hazardous substances
Classified as hazardous waste.

Waste disposal number of contaminated packaging

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances
Classified as hazardous waste.

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information**Land transport (ADR/RID)****14.1. UN number:**

UN 3077

14.2. UN proper shipping name:

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (calcium sulphide)

14.3. Transport hazard class(es):

9

14.4. Packing group:

III

Hazard label:

9



Classification code:

M7

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Europium doped Calcium sulphide

Revision date: 13.10.2016

Product code:

Page 8 of 10

Special Provisions:	274 335 375 601
Limited quantity:	5 kg
Excepted quantity:	E1
Transport category:	3
Hazard No:	90
Tunnel restriction code:	E

Inland waterways transport (ADN)

<u>14.1. UN number:</u>	UN 3077
<u>14.2. UN proper shipping name:</u>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (calcium sulphide)
<u>14.3. Transport hazard class(es):</u>	9
<u>14.4. Packing group:</u>	III
Hazard label:	9



Classification code:	M7
Special Provisions:	274 335 375 601
Limited quantity:	5 kg
Excepted quantity:	E1

Marine transport (IMDG)

<u>14.1. UN number:</u>	UN 3077
<u>14.2. UN proper shipping name:</u>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (calcium sulphide)
<u>14.3. Transport hazard class(es):</u>	9
<u>14.4. Packing group:</u>	III
Hazard label:	9



Marine pollutant:	YES
Special Provisions:	274, 335, 966, 967, 969
Limited quantity:	5 kg
Excepted quantity:	E1
EmS:	F-A, S-F

Air transport (ICAO-TI/IATA-DGR)

<u>14.1. UN number:</u>	UN 3077
<u>14.2. UN proper shipping name:</u>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(calcium sulphide)
<u>14.3. Transport hazard class(es):</u>	9
<u>14.4. Packing group:</u>	III
Hazard label:	9



Special Provisions:	A97 A158 A179 A197
Limited quantity Passenger:	30 kg G
Passenger LQ:	Y956
Excepted quantity:	E1

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Europium doped Calcium sulphide

Revision date: 13.10.2016

Product code:

Page 9 of 10

IATA-packing instructions - Passenger:	956
IATA-max. quantity - Passenger:	400 kg
IATA-packing instructions - Cargo:	956
IATA-max. quantity - Cargo:	400 kg

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: yes



Danger releasing substance: calcium sulphide

14.6. Special precautions for user

refer to chapter 6-8

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

not relevant

SECTION 15: Regulatory information

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

EU regulatory information

2010/75/EU (VOC):	0%
2004/42/EC (VOC):	0 g/L
Information according to 2012/18/EU (SEVESO III):	E1 Hazardous to the Aquatic Environment

Additional information

The substance is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].
REACH 1907/2006 Appendix XVII: not relevant

National regulatory information

Employment restrictions:	Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).
Water contaminating class (D):	2 - water contaminating

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

SECTION 16: Other information

Changes

Rev. 1.0; 13.10.2016 Initial release

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route
 CAS Chemical Abstracts Service
 DNEL: Derived No Effect Level
 IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER
 International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
 ICAO: International Civil Aviation Organization
 ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
 GHS: Globally Harmonized System of Classification and Labelling of Chemicals
 GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)
 LOAEL: Lowest observed adverse effect level

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Europium doped Calcium sulphide

Revision date: 13.10.2016

Product code:

Page 10 of 10

LOAEC: Lowest observed adverse effect concentration
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
NOAEL: No observed adverse effect level
NOAEC: No observed adverse effect level
NTP: National Toxicology Program
N/A: not applicable
OSHA: Concerning the International Transport of Dangerous Goods by Rail)
PNEC: predicted no effect concentration
PBT: Persistent bioaccumulative toxic
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
SARA: Superfund Amendments and Reauthorization Act
SVHC: substance of very high concern
TRGS Technische Regeln für Gefahrstoffe
TSCA: Toxic Substances Control Act
VOC: Volatile Organic Compounds
VwVwS: Verwaltungsvorschrift wassergefährdender Stoffe
WGK: Wassergefährdungsklasse

Relevant H and EUH statements (number and full text)

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
EUH031	Contact with acids liberates toxic gas.

Further Information

Classification according EC regulation 1272/2008 (CLP): - Classification procedure:
Health hazards: Calculation method.
Environmental hazards: Calculation method.
Physical hazards: On basis of test data. and / or calculated and / or estimated.

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.