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

1.1 Product identifier

Kjelcat Se, 3.5g K2SO4 + 0.0035g Se, 1000 pcs.
Article number: 12-0326

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

1.2.1 Relevant uses

Analytics
Laboratory reagents

1.2.2 Uses advised against

None known.

1.3 Details of the supplier of the safety data sheet

Company

C. Gerhardt GmbH & Co. KG
Cäsariusstraße 97
53639 Königswinter / GERMANY
Phone +49 (0)2223 2999 - 0
Fax +49 (0)2223 2999 - 99
Homepage www.gerhardt.de
E-mail info@gerhardt.de

Address enquiries to

Technical information info@gerhardt.de

Safety Data Sheet sdb@chemiebuero.de (No dispatch of safety data sheets)

Safety data sheets are available from the supplier.

1.4 Emergency telephone number

Company +49 (0) 2223 2999-0 Mo-Fr 8:00 - 16:00

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture [REGULATION (GB) CLP]

No classification.

2.2 Label elements

The product is required to be labelled in accordance with regulation CLP.

Hazard pictograms none

Signal word none

Hazard statements none

Precautionary statements none

Special labelling EUH210 Safety data sheet available on request.

2.3 Other hazards

Human health dangers The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Environmental 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 substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Other hazards Further hazards were not determined with the current level of knowledge.

SECTION 3: Composition / Information on ingredients

3.1 Substances

not applicable

3.2 Mixtures

The product is a mixture.

Range [%]	Substance
0,1	Selen
	CAS: 7782-49-2, EINECS/ELINCS: 231-957-4, Reg-No.: 01-2119981706-25-XXXX
	GHS/CLP: Acute Tox. 3: H301 - Acute Tox. 3: H331 - STOT RE 2: H373 - Aquatic Chronic 4: H413

Comment on component parts For full text of H-statements: see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information Take off contaminated clothing and wash before reuse.

Inhalation Ensure supply of fresh air.
In the event of symptoms seek medical treatment.

Skin contact When in contact with the skin, clean with soap and water.
Consult a doctor if skin irritation persists.

Eye contact Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

Ingestion Rinse out mouth and give plenty of water to drink.
Seek medical advice.

4.2 Most important symptoms and effects, both acute and delayed

Vomiting.
By inhalation:
Irritant effects

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.
Forward this sheet to your doctor.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media Product itself is non-combustible. Fire extinguishing method of surrounding areas must be considered.

Extinguishing media that must not be used Full water jet.

5.2 Special hazards arising from the substance or mixture

Risk of formation of toxic pyrolysis products.
Sulphur oxides (SOx).
Metal oxides.

5.3 Advice for firefighters

Use self-contained breathing apparatus.

Fire residues and contaminated firefighting water must be disposed of in accordance within the local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.
Wear suitable protective equipment. For personal protection see SECTION 8.

6.2 Environmental precautions

Do not discharge into the drains/surface waters/groundwater.

6.3 Methods and material for containment and cleaning up

Take up mechanically. Avoid production of dust.
Dispose of absorbed material in accordance within the regulations (Section 13).

6.4 Reference to other sections

See SECTION 7+8+13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

The normal safety precautions for handling chemicals must be observed.
Avoid the formation and deposition of dust.
Avoid contact with eyes and skin. Use personal protective equipment.

Do not eat, drink or smoke when using this product.
Wash hands before breaks and after work.
Use barrier skin cream.
Take off contaminated clothing and wash before reuse.

7.2 Conditions for safe storage, including any incompatibilities

Keep only in original container.

Do not store together with oxidizing agents.
Do not store together with food and animal food/diet.

Keep container tightly closed.
Store in a dry place.

7.3 Specific end use(s)

See product use, SECTION 1.2

SECTION 8: Exposure controls / personal protection

8.1 Control parameters

Ingredients with occupational exposure limits to be monitored (UK)

Substance
Selen
CAS: 7782-49-2, EINECS/ELINCS: 231-957-4, Reg-No.: 01-2119981706-25-XXXX
Long-term exposure: 0,1 mg/m³, ACTS

Ingredients with occupational exposure limits to be monitored EU (2004/37/EG)

not relevant

DNEL

Substance
Selen, CAS: 7782-49-2
Industrial, inhalative, Long-term - systemic effects, 0,05 mg/m³
Industrial, dermal, Long-term - systemic effects, 7 mg/kg
general population, dermal, Long-term - systemic effects, 4,3 mg/kg
general population, oral, Long-term - systemic effects, 4,3 mg/kg
general population, inhalative, Long-term - systemic effects, 0,015 mg/m³

PNEC

Substance
Selen, CAS: 7782-49-2
freshwater, 2,67 ug/L
seawater, 2 ug/L
sediment (freshwater), 8,2 mg/L
sediment (seawater), 6,2 mg/L
terrestrial, 0,1 mg/kg

8.2 Exposure controls

Additional advice on system design
Ensure adequate ventilation on workstation.
Pay attention to dust limit value (ACGIH-2011: 10 mg/m³ particle inhalable; 1,25 mg/m³ particle respirable).

Eye protection
safety glasses (EN 166:2001)

Hand protection
The details concerned are recommendations. Please contact the glove supplier for further information.
0,4 mm; Nitrile rubber, >480 min (EN 374-1/-2/-3).

Skin protection
light protective clothing

Other
Do not inhale dust.
Avoid contact with eyes and skin.
Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity handled. The resistance of this equipment to chemicals should be ascertained with the respective supplier.

Respiratory protection
If workplace limit values are exceeded or if there is insufficient ventilation:
Short term: filter apparatus, filter P2. (DIN EN 143)

Thermal hazards
none

Delimitation and monitoring of the environmental exposition
See SECTION 6+7.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	solid
Form	tablet
Color	grey
Odor	odourless
Odour threshold	not relevant
pH-value	6,49 (50 g/L; 20°C)
pH-value [1%]	not applicable
Boiling point or initial boiling point and boiling range [°C]	not applicable
Flash point [°C]	not applicable
Flammability	not applicable
Lower explosion limit	not applicable
Upper explosion limit	not applicable
Oxidising properties	no
Vapour pressure/gas pressure [kPa]	not relevant
Density [g/cm³]	2,66 (20°C)
Relative density	2,66 (20°C)
Bulk density [kg/m³]	1378 (20°C)
Solubility in water	111 g/L (20°C)
Solubility other solvents	No information available.
Partition coefficient n-octanol/water (log value)	not applicable
Kinematic viscosity	not applicable
Relative vapour density	not applicable
Melting point [°C]	No information available.
Auto-ignition temperature [°C]	not self-igniting
Decomposition temperature [°C]	No information available.
Particle characteristics	not relevant

9.2 Other information

none

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reactions known if used as directed.

10.2 Chemical stability

The product is stable under standard conditions.

10.3 Possibility of hazardous reactions

No hazardous reactions known.

10.4 Conditions to avoid

Sensitive to moisture.

10.5 Incompatible materials

Alkalis and corrosion-sensitive metals.

10.6 Hazardous decomposition products

No decomposition if used and stored according to specifications.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute oral toxicity

Product
ATE-mix, oral, > 2000 mg/kg

Substance
Selen, CAS: 7782-49-2
LD50, oral, Rat, 7 mg/kg
ATE, oral, 100 mg/kg (Cat. 3)

Acute dermal toxicity Based on the available information, the classification criteria are not fulfilled.

Acute inhalational toxicity

Product
ATE-mix, inhalativ (dust), > 5 mg/l

Substance
Selen, CAS: 7782-49-2
LC50, inhalativ (dust), Rat, >5,67 mg/l, 4h
ATE, inhalativ (dust), 0,5 mg/l, 4h

Serious eye damage/irritation Based on the available information, the classification criteria are not fulfilled.

Substance
Selen, CAS: 7782-49-2
Eye, Rabbit, ZnSeO3, OECD 405, non-irritating

Skin corrosion/irritation Based on the available information, the classification criteria are not fulfilled.

Substance
Selen, CAS: 7782-49-2
Reconstituted human epidermis model, ZnSeO3, OECD 439, non-irritating

Respiratory or skin sensitisation Based on the available information, the classification criteria are not fulfilled.

Substance
Selen, CAS: 7782-49-2
dermal, mouse, ZnSeO3, OECD 429, non-sensitizing

Specific target organ toxicity — single exposure Based on the available information, the classification criteria are not fulfilled.

Specific target organ toxicity — repeated exposure Based on the available information, the classification criteria are not fulfilled.

Substance
Selen, CAS: 7782-49-2
NOAEL, oral, Rat, 0,4 mg/kg bw/day, OECD 408, adverse effect observed

Mutagenicity Based on the available information, the classification criteria are not fulfilled.

Substance
Selen, CAS: 7782-49-2
in vitro, ZnSeO3, OECD 476, negativ

Reproduction toxicity Based on the available information, the classification criteria are not fulfilled.

- Fertility

Substance
Selen, CAS: 7782-49-2
NOAEL, oral, Rat, 0,21 mg Se/kg/day (Na2SeO3), In vivo study, negativ

- Development

Substance
Selen, CAS: 7782-49-2
NOAEL, oral, mouse, 0,6 mg Na2SeO3/kg bw/day, In vivo study, negativ

Carcinogenicity Based on the available information, the classification criteria are not fulfilled.

Aspiration hazard Based on the available information, the classification criteria are not fulfilled.

General remarks

Toxicological data of complete product are not available.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

11.2.2 Other information none

SECTION 12: Ecological information

12.1 Toxicity

Substance
Selen, CAS: 7782-49-2
LC50, (96h), Oncorhynchus mykiss, > 100 mg/L (OECD 203)
EC50, (48h), Daphnia magna, > 100 mg/L (OECD 202)
NOEC, (72h), Pseudokirchneriella subcapitata, 0,547 ug/L (OECD 201)
NOEC, (28d), Oncorhynchus mykiss, > 10 mg/L (OECD 215)

12.2 Persistence and degradability

Behaviour in environment compartments No information available.

Behaviour in sewage plant No information available.

Biological degradability

Substance
Selen, CAS: 7782-49-2
The methods for determining the boilogical degradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

Contains components with the potential to bioaccumulate.

Substance
Selen, CAS: 7782-49-2
BCF, 7,7

12.4 Mobility in soil

Substance
Selen, CAS: 7782-49-2
log Kp, 3,49 L/kg

12.5 Results of PBT and vPvB assessment

Based on all available information not to be classified as PBT or vPvB respectively.

12.6 Endocrine disrupting properties

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

Do not discharge product unmonitored into the environment.
Ecological data of complete product are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

Product

Coordinate disposal with the disposal contractor/authorities if necessary.

Waste no. (recommended) 060314

Contaminated packaging

Uncontaminated packaging may be taken for recycling.

Waste no. (recommended) 150102

SECTION 14: Transport information

14.1 UN number or ID number

Transport by land according to ADR/RID not applicable

Inland navigation (ADN) not applicable

Marine transport in accordance with IMDG not applicable

Air transport in accordance with IATA not applicable

14.2 UN proper shipping name

Transport by land according to ADR/RID	NO DANGEROUS GOODS
Inland navigation (ADN)	NO DANGEROUS GOODS
Marine transport in accordance with IMDG	NOT CLASSIFIED AS "DANGEROUS GOODS"
Air transport in accordance with IATA	NOT CLASSIFIED AS "DANGEROUS GOODS"

14.3 Transport hazard class(es)

Transport by land according to ADR/RID	not applicable
Inland navigation (ADN)	not applicable
Marine transport in accordance with IMDG	not applicable
Air transport in accordance with IATA	not applicable

14.4 Packing group

Transport by land according to ADR/RID	not applicable
Inland navigation (ADN)	not applicable
Marine transport in accordance with IMDG	not applicable
Air transport in accordance with IATA	not applicable

14.5 Environmental hazards

Transport by land according to ADR/RID	no
Inland navigation (ADN)	no
Marine transport in accordance with IMDG	no
Air transport in accordance with IATA	no

14.6 Special precautions for user

Relevant information under SECTION 6 to 8.

14.7 Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

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

EEC-REGULATIONS	2008/98/EG (2000/532/EC); 2010/75/EU; 2004/42/EG; (EG) 648/2004; (EC) 1907/2006 (REACH); (EU) 1272/2008; 75/324/EWG ((EC) 2016/2037); (EU) 2020/878; (EU) 2016/131; (EU) 517/2014; (EU) 2019/1148; (EU) 2019/1021, (EU) 2023/707
- Comment on component parts	Substances of Very High Concern - SVHC: substances are not contained or are below 0.1%.
- Annex XIV (REACH)	According to Annex XIV of Regulation (EC) 1907/2006 (REACH) the product does not contain any substances ≥ 0.1% that are subject to authorisation.
- Annex XVII (REACH)	According to Annex XVII of Regulation (EC) 1907/2006 (REACH) the product does not contain any substances ≥ 0.1% that are restricted. According to Annex XVII of Regulation (EC) 1907/2006 (REACH) the product is not subject to any restrictions.
TRANSPORT-REGULATIONS	ADR (2023); IMDG-Code (2023, 41. Amdt.); IATA-DGR (2024)
NATIONAL REGULATIONS (UK):	EH40/2005 Workplace exposure limits (Second edition, published December 2011); UK REACH; GB CLP.
- Observe employment restrictions for people	not applicable
- VOC (2010/75/CE)	0 %

15.2 Chemical safety assessment

not applicable

SECTION 16: Other information

16.1 Hazard statements (SECTION 3)

H413 May cause long lasting harmful effects to aquatic life.
H373 May cause damage to organs through prolonged or repeated exposure.
H331 Toxic if inhaled.
H301 Toxic if swallowed.

16.2 Abbreviations and acronyms:

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses
ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
ATE = acute toxicity estimate
CAS = Chemical Abstracts Service
CLP = Classification, Labelling and Packaging
DMEL = Derived Minimum Effect Level
DNEL = Derived No Effect Level
EC50 = Median effective concentration
ECB = European Chemicals Bureau
EEC = European Economic Community
EINECS = European Inventory of Existing Commercial Chemical Substances
EL50 = Median effective loading
ELINCS = European List of Notified Chemical Substances
EmS = Emergency Schedules
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50 = Inhibition concentration, 50%
IMDG = International Maritime Code for Dangerous Goods
IUCLID = International Uniform ChemicaL Information Database
IVIS = In vitro irritation score
LC50 = Lethal concentration, 50%
LD50 = Median lethal dose
LC0 = lethal concentration, 0%
LOAEL = lowest-observed-adverse-effect level
LL50 = Median lethal loading
LQ = Limited Quantities
MARPOL = International Convention for the Prevention of Marine Pollution from Ships
NOAEL = No Observed Adverse Effect Level
NOEC = No Observed Effect Concentration
PBT = Persistent, Bioaccumulative and Toxic substance
PNEC = Predicted No-Effect Concentration
REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
STP = Sewage Treatment Plant
TLV®/TWA = Threshold limit value – time-weighted average
TLV®STEL = Threshold limit value – short-time exposure limit
VOC = Volatile Organic Compounds
vPvB = very Persistent and very Bioaccumulative

16.3 Other information

Classification procedure

Modified position 2.3, 11.1, 11.2, 12.6, 15.1

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