

KBS 5005 - Etching pen for aluminium and non-ferrous metal

Material number KBS5005

Page: 1 of 11

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

1.1 Product identifier

Trade name: KBS 5005 - Etching pen for aluminium and non-ferrous metal

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

General use: Caustic agent for marking of metal parts
For professional use only.

1.3 Details of the supplier of the safety data sheet

Company name: GIMA e.K.
Street/POB-No.: Altenberger-Dom-Straße 56b
Postal Code, city: 51467 Bergisch Gladbach
Germany
WWW: www.gima-ib.de
E-mail: info@gima-ib.de
Telephone: +49 (0)2202 2 85 85 0
Telefax: +49 (0)2202 2 85 85 28

Dept. responsible for information:
Michel J. Girard,
Telephone: +49 (0)2202 2 85 85 0, Email info@gima-ib.de

1.4 Emergency telephone number

Michel J. Girard,
Telephone: +49 (0)2202 2 85 85 0, Email info@gima-ib.de

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to EC regulation 1272/2008 (CLP)

Met. Corr. 1; H290	May be corrosive to metals.
Acute Tox. 3; H301	Toxic if swallowed.
Acute Tox. 3; H331	Toxic if inhaled.
Skin Irrit. 2; H315	Causes skin irritation.
Eye Dam. 1; H318	Causes serious eye damage.
STOT RE 2; H373	May cause damage to organs through prolonged or repeated exposure.
Aquatic Acute 1; H400	Very toxic to aquatic life.
Aquatic Chronic 1; H410	Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (CLP)



Signal word: **Danger**

KBS 5005 - Etching pen for aluminium and non-ferrous metal

Material number KBS5005

Page: 2 of 11

Hazard statements:	H290	May be corrosive to metals.
	H301	Toxic if swallowed.
	H315	Causes skin irritation.
	H318	Causes serious eye damage.
	H331	Toxic if inhaled.
	H373	May cause damage to organs through prolonged or repeated exposure.
	H410	Very toxic to aquatic life with long lasting effects.

Precautionary statements:	P260	Do not breathe dust/fume/gas/mist/vapours/spray.
	P280	Wear protective gloves/protective clothing/eye protection/face protection.
	P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
	P302+P352	IF ON SKIN: Wash with plenty of water/soap.
	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.
	P311	Call a POISON CENTER/doctor.
	P390	Absorb spillage to prevent material damage.

Special labelling

Text for labelling: Contains Selenium dioxide, Copper sulphate, Hydrochloric acid.

2.3 Other hazards

A corrosive effect cannot be ruled out because of the pH value.

Results of PBT and vPvB assessment:
No data available

SECTION 3: Composition / information on ingredients

3.1 Substances: not applicable

3.2 Mixtures

Chemical characterisation: Aqueous solution

Hazardous ingredients:

Ingredient	Designation	Content	Classification
EC No. 231-194-7 CAS 7446-08-4	Selenium dioxide	10 - 20 %	Acute Tox. 3; H301. Acute Tox. 3; H331. STOT RE 2; H373. Aquatic Acute 1; H400. Aquatic Chronic 1; H410.
REACH 01-2119520556-40-xxxx EC No. 231-847-6 CAS 7758-98-7	Copper sulphate, anhydrous	5 - 10 %	Acute Tox. 4; H302. Skin Irrit. 2; H315. Eye Irrit. 2; H319. Aquatic Acute 1; H400. Aquatic Chronic 1; H410.
REACH 01-2119484862-27-xxxx EC No. 231-595-7 CAS 7647-01-0	Hydrochloric acid	< 5 %	Met. Corr. 1; H290. Skin Corr. 1B; H314. STOT SE 3; H335.

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

KBS 5005 - Etching pen for aluminium and non-ferrous metal

Material number KBS5005

Page:

3 of 11

SECTION 4: First aid measures

4.1 Description of first aid measures

- General information: First aider: Pay attention to self-protection!
If victim is at risk of losing consciousness, position and transport on their side.
- In case of inhalation: Move victim to fresh air, put at rest and loosen restrictive clothing. In case of irregular breathing or respiratory arrest provide artificial respiration. No mouth-to-mouth or mouth-to-nose artificial respiration. Immediately get medical attention.
- Following skin contact: Take off immediately all contaminated clothing.
Clean with plenty of water. If possible, also wash with polyethylene glycol 400. Cover with sterile dressing material to protect against infection. Seek medical attention.
- After eye contact: Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently seek the immediate attention of an ophthalmologist.
- After swallowing: Immediately get medical attention.
Rinse mouth immediately and drink plenty of water.
Never give anything by mouth to an unconscious person.
Do not induce vomiting without medical assistance. Risk of perforation!

4.2 Most important symptoms and effects, both acute and delayed

Toxic if swallowed or if inhaled. May cause damage to organs through prolonged or repeated exposure. Causes serious eye damage. Causes skin irritation.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media:
Product is non-combustible. Extinguishing materials should therefore be selected according to surroundings.

Extinguishing media which must not be used for safety reasons:
Full water jet

5.2 Special hazards arising from the substance or mixture

Fires in the immediate vicinity may cause the development of dangerous vapours.
In case of fire may be liberated: selenium compounds, sulphur oxides, hydrogen chloride.

5.3 Advice for firefighters

Special protective equipment for firefighters:
In case of surrounding fires: Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information: Hazchem-Code: 2X
Cool endangered containers with water spray and, if possible, remove from danger zone.
Do not allow water used to extinguish fire to enter drains, ground or waterways.

KBS 5005 - Etching pen for aluminium and non-ferrous metal

Material number KBS5005

Page:

4 of 11

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid contact with the substance. Wear appropriate protective equipment.
Avoid aerosol and mist formation. Keep unprotected people away.
Do not breathe vapour/aerosol. Provide adequate ventilation.

6.2 Environmental precautions

Do not allow to penetrate into soil, waterbodies or drains.
In case of release, notify competent authorities.

6.3 Methods and material for containment and cleaning up

Soak up with absorbent materials such as sand, siliceous earth, acid- or universal binder.
Store in special closed containers and dispose of according to ordinance.
In case of spills of large quantities: Neutralize with Sodium carbonate or lime.
Thoroughly clean surrounding area.

6.4 Reference to other sections

Refer additionally to section 8 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advices on safe handling: Provide adequate ventilation. Execute works under fume hood.
Avoid contact with skin, eyes, and clothing.
The product is to be handled with extreme caution.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storerooms and containers:

Keep container tightly closed in a cool, well-ventilated place. Store at room temperature.
Use containers made of polyethylene (PE).

Hints on joint storage:

Do not store together with strong oxidizing agents or strong acids.

Further details:

Attention: Empty containers will retain product residue and are to handle as though they are full.

7.3 Specific end use(s)

No information available.

KBS 5005 - Etching pen for aluminium and non-ferrous metal

Material number KBS5005

Page:

5 of 11

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
7446-08-4	Selenium dioxide	Great Britain: WEL-TWA Ireland: 8 hours	0.1 mg/m ³ 0.1 mg/m ³
7758-98-7	Copper sulphate, anhydrous	Great Britain: WEL-STEL Great Britain: WEL-TWA Great Britain: WEL-TWA Ireland: 15 minutes Ireland: 8 hours Ireland: 8 hours	2 mg/m ³ (Dusts and mist calculated as Cu) 0.2 mg/m ³ (Smoke) 1 mg/m ³ (Dusts and mist calculated as Cu) 2 mg/m ³ (Dusts and mist calculated as Cu) 0.2 mg/m ³ (Smoke) 1 mg/m ³ (Dusts and mist calculated as Cu)
7647-01-0	Hydrochloric acid	Europe: IOELV: STEL Europe: IOELV: TWA Great Britain: WEL-STEL Great Britain: WEL-TWA Ireland: 15 minutes Ireland: 8 hours	15 mg/m ³ ; 10 ppm (Hydrogen chloride) 8 mg/m ³ ; 5 ppm (Hydrogen chloride) 8 mg/m ³ ; 5 ppm (gas and aerosol mists) 2 mg/m ³ ; 1 ppm (gas and aerosol mists) 15 mg/m ³ ; 10 ppm 8 mg/m ³ ; 5 ppm

8.2 Exposure controls

Provide good ventilation and/or an exhaust system in the work area. Execute works under fume hood.

Personal protection equipment

Occupational exposure controls

Respiratory protection: Respiratory protection must be worn whenever the WEL levels have been exceeded.
Recommendation: Use filter type E-P2 according to EN 14387..
Have a breathing apparatus that is not dependent on the circulating air ready for emergencies.

Hand protection: Protective gloves according to EN 374.
Acid-resistant. Breakthrough time: >480 min.
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Eye protection: Tightly sealed goggles according to EN 166.

Body protection: Acid-proof protective clothing. Wear work clothes with long arms.
In case of handling larger quantities: Rubber boots, protective apron.

General protection and hygiene measures:

Take off immediately all contaminated clothing. Do not wear contact lenses. Do not breathe vapour/aerosol. Avoid contact with the substance. When using do not eat or drink. Have eye wash bottle or eye rinse ready at work place. Wash hands before breaks and after work.

KBS 5005 - Etching pen for aluminium and non-ferrous metal

Material number KBS5005

Page:

6 of 11

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance:	Form: liquid Colour: blue
Odour:	weak
Odour threshold:	No data available
pH value:	≤ 2
Melting point/freezing point:	No data available
Initial boiling point and boiling range:	$> 35\text{ }^{\circ}\text{C}$
Flash point/flash point range:	not combustible
Evaporation rate:	No data available
Flammability:	No data available
Explosion limits:	No data available
Vapour pressure:	No data available
Vapour density:	No data available
Density:	1.15 g/mL
Water solubility:	soluble
Partition coefficient: n-octanol/water:	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity, kinematic:	No data available
Explosive properties:	No data available
Oxidizing characteristics:	No data available

9.2 Other information

Additional information: No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

May be corrosive to metals.

10.2 Chemical stability

Product is stable under normal storage conditions.

10.3 Possibility of hazardous reactions

No dangerous reactions with proper and specified storage and handling

10.4 Conditions to avoid

Protect from excessive heat.

10.5 Incompatible materials

Strong oxidizing agents, strong acids

KBS 5005 - Etching pen for aluminium and non-ferrous metal

Material number KBS5005

Page: 7 of 11

10.6 Hazardous decomposition products

In case of fire may be liberated: Selenium compounds, sulphur oxides, hydrogen chloride.
Thermal decomposition: No data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Toxicological effects: The statements are derived from the properties of the single components. No toxicological data is available for the product as such.

Acute toxicity (oral): Acute Tox. 3; H301 = Toxic if swallowed.

Acute toxicity (dermal): Lack of data.

Acute toxicity (inhalative): Acute Tox. 3; H331 = Toxic if inhaled.

Skin corrosion/irritation: Skin Irrit. 2; H315 = Causes skin irritation.

Serious eye damage/irritation: Eye Dam. 1; H318 = Causes serious eye damage.

Sensitisation to the respiratory tract: Lack of data.

Skin sensitisation: Lack of data.

Germ cell mutagenicity/Genotoxicity: Lack of data.

Carcinogenicity: Lack of data.

Reproductive toxicity: Lack of data.

Effects on or via lactation: Lack of data.

Specific target organ toxicity (single exposure): Lack of data.

Specific target organ toxicity (repeated exposure): STOT RE 2; H373 = May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard: Lack of data.

Other information: Selenium dioxide: LD50 Rat, oral: 68,1 mg/kg
Copper sulphate: LD50 Rat, oral: 482 mg/kg

Symptoms

In case of inhalation: corrosive, pain

In case of ingestion: Burns, pain, necrosis.

After eye contact: Burns, Risk of serious damage to eyes.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Harmful effects by modification of pH-value.

The following applies to Copper sulphate in general:

Daphnia toxicity:

EC50 Daphnia magna: 0,18 mg/l/48 h.

Fish toxicity:

LC50 Oncorhynchus mykiss 0,032 mg/l/96 h.

LC50 Lepomis macrochirus (bluegill) 0,892 mg/l/96 h.

KBS 5005 - Etching pen for aluminium and non-ferrous metal

Material number KBS5005

Page: 8 of 11

12.2 Persistence and degradability

Further details: Methods for the determination of biodegradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

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

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

No data available

12.6 Other adverse effects

General information: Do not allow to enter into ground-water, surface water or drains.
Avoid spills and leaks. Very small amounts contaminates drinking water.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Waste key number: 11 01 98* = Other wastes containing hazardous substances
* = Evidence for disposal must be provided.

Recommendation: Special waste. Dispose of waste according to applicable legislation.
Do not dispose of with household waste. Discharge into the environment must be avoided.

Contaminated packaging

Waste key number: 15 01 02 = Plastic packaging

Recommendation: Dispose of waste according to applicable legislation.
Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

14.1 UN number

ADR/RID, IMDG, IATA-DGR:
UN 2922

14.2 UN proper shipping name

ADR/RID, IMDG, IATA-DGR:
UN 2922, CORROSIVE LIQUID, TOXIC, N.O.S. (Selenium dioxide, hydrochloric acid)

14.3 Transport hazard class(es)

ADR/RID: Class 8, Code: CT1
IMDG, IATA-DGR: Class 8, Subrisk 6.1

KBS 5005 - Etching pen for aluminium and non-ferrous metal

Material number KBS5005

Page: 9 of 11

14.4 Packing group

ADR/RID, IMDG, IATA-DGR:
 III

14.5 Environmental hazards

Marine pollutant: yes

14.6 Special precautions for user

Land transport (ADR/RID)

Warning board: ADR/RID: Kemmler-number 86,
 UN number UN 2922

Hazard label: 8+6.1

Special provisions: 274

Limited quantities: 5 L

EQ: E1

Contaminated packaging - Instructions: P001 IBC03 R001

Special provisions for packing together: MP19

Portable tanks - Instructions: T7

Portable tanks - Special provisions: TP1 TP28

Tank coding: L4BN

Tunnel restriction code: E



Sea transport (IMDG)

EmS: F-A, S-B

Special provisions: 223, 274

Limited quantities: 5 L

Excepted quantities: E1

Contaminated packaging - Instructions: P001

Contaminated packaging - Provisions: -

IBC - Instructions: IBC03

IBC - Provisions: -

Tank instructions - IMO: -

Tank instructions - UN: T7

Tank instructions - Provisions: TP1, TP28

Stowage and handling: Category B. SW2

Properties and observations: Causes burns to skin, eyes and mucous membranes. Toxic if swallowed, by skin contact or by inhalation.

Segregation group: none



KBS 5005 - Etching pen for aluminium and non-ferrous metal

Material number KBS5005

Page: 10 of 11

Air transport (IATA)

Hazard label:	Corrosive & Toxic
Excepted Quantity Code:	E1
Passenger and Cargo Aircraft: Ltd. Qty.:	Pack.Instr. Y841 - Max. Net Qty/Pkg. 1 L
Passenger and Cargo Aircraft:	Pack.Instr. 852 - Max. Net Qty/Pkg. 5 L
Cargo Aircraft only:	Pack.Instr. 856 - Max. Net Qty/Pkg. 60 L
Special provisions:	A3 A803
Emergency Response Guide-Code (ERG):	8P



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

No data available

SECTION 15: Regulatory information

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

National regulations - Great Britain

Hazchem-Code: 2X
No data available

National regulations - EC member states

Labelling of packaging with <= 125mL content



Signal word: **Danger**

Hazard statements: H301 Toxic if swallowed.
H318 Causes serious eye damage.
H331 Toxic if inhaled.

Precautionary statements: P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
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.
P311 Call a POISON CENTER/doctor.

15.2 Chemical Safety Assessment

For this mixture a chemical safety assessment is not required.

KBS 5005 - Etching pen for aluminium and non-ferrous metal

Material number KBS5005

Page: 11 of 11

SECTION 16: Other information

Further information

Wording of the H-phrases under paragraph 2 and 3:

- H290 = May be corrosive to metals.
- H301 = Toxic if swallowed.
- H302 = Harmful if swallowed.
- H314 = Causes severe skin burns and eye damage.
- H315 = Causes skin irritation.
- H318 = Causes serious eye damage.
- H319 = Causes serious eye irritation.
- H331 = Toxic if inhaled.
- H335 = May cause respiratory irritation.
- H373 = May cause damage to organs through prolonged or repeated exposure.
- H400 = Very toxic to aquatic life.
- H410 = Very toxic to aquatic life with long lasting effects.

Reason of change: Changes in section 2: Labelling (P-phrases: EU, ATP 8)

Date of first version: 1/4/2009

Department issuing data sheet

Contact person: see section 1: Dept. responsible for information

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.