

# SAFETY DATA SHEET

according to European Parliament and Council Regulation (EC) No. 1907/2006 (REACH) and Commission Regulation (EU) No. 453/2010

## Tinning bath CL-1

Creation date                      December 17, 2008  
Date of revision                      March 8, 2012

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

**1.1. Product identifier** Substance /                      Tinning bath CL-1  
mixture: Number                      Mixture

Other names of the mixture

#### 1.2. Relevant identified uses of the mixture

Intended uses of the substance/                      Tinning of copper and its alloys  
mixture Unrecommended uses of the mixture

#### 1.3. Details of the supplier of the safety data sheet

##### Manufacturer

Name or business name Place of business or registered office	ELCHEMCo spol. Ltd Pražská Street 16, 102 21 Prague 10 Czech Republic
Telephone	281017459
Fax	281017469
E-mail address Website address	elchemco@elchemco.cz www.elchemco.cz

##### Professionally qualified person responsible for the safety data sheet

Name or business name Electronic	ELCHEMCo spol. Ltd
mail address 1.4. Telephone	elchemco@elchemco.cz

#### number for emergency situations in the Czech Republic

Clinic for occupational diseases, Toxicology Information Center (TIS), Na Bojišti 1, 128 08 Prague 2, 224 919  
293 or 224 915 402

**Telephone number for emergency situations abroad**  
not specified

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification of the mixture according to Regulation (EC) 1272/2008

The mixture has not been classified according to Regulation (EC) 1272/2008.

##### Mixture classification according to 1999/45/EC

##### Written statement of danger

C - corrosive

##### R-phrases

R 35 (C)                      Causes severe burns  
R 40 (Carc. Cat. 3) Suspected of carcinogenic effects  
R 52/53                      Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment  
environment  
R 63 (Repr. Cat. 3) Possible risk of harm to the fetus in the mother's body

##### Adverse physico-chemical effects, health and environmental effects, symptoms related to use and possible inappropriate use

Sulfuric acid causes severe burns, especially to the eyes. Sulfuric acid shifts the pH of the water into the acidic range and thus endangers aquatic organisms. Possible incorrect use of the mixture: Use when handling tinned objects plastic tweezers. Do not handle with unprotected hands.

#### 2.2. Marking elements

##### Warning symbol



C - corrosive

##### R-phrases

R 35                      Causes severe burns  
R 40                      Suspected carcinogenic effects  
R 52/53                      Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment  
environment  
R 63                      Possible danger of damage to the fetus in the mother's body

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### S-phrases

S 1/2                                      Keep locked up and out of reach of children  
S 26                                      In case of eye contact, immediately rinse thoroughly with water and seek medical attention  
S 36/37/39                              Wear suitable protective clothing, protective gloves and safety glasses or a face shield  
  
S 45                                      In case of accident or if you feel unwell, seek medical attention immediately (show this label if possible)  
  
S 56                                      Dispose of this material and its packaging at a special or hazardous waste collection point

### Hazardous substances

Accumulator sulfuric acid (Index: 016-020-00-8)  
Thiomoyovina (Index: 612-082-00-0)

**Requirements for child-resistant closures and tangible warnings** The package must be provided with a tangible warning for the blind. The packaging must be resistant to being opened by children.

### 2.3. Another danger

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

#### Chemical characteristics

A solution of inorganic salts and acids in water.  
The composition is given in wt.% of pure substances.

**The mixture contains these dangerous substances and substances with the highest permissible concentrations in the working atmosphere**

Identification numbers	Substance name	Content in % of mixture weight	Classification 67/548/EHS	CLP classification		CLP label			Note
				Codes of classes and categories of danger	Codes of standard warning phrases about dangers	Codes of standard symbols and danger signaling of	Additional codes. sentences about standard		
Index: 016-020-00 -8 CAS: 7664-93-9 ES: 231-639-5 Registration number: 01-2119458838-20	Accumulator sulfuric acid	20-35	C; R 35	Met. Corr. 1, Skin Corr. 1A	H290, H314	GHS05, Dr			
Index: 612-082-00 Thiomoyovina -0 CAS: 62-56-6 ES: 200-543-5		<5	Xn; R 22 Scratch cat. 3; R 40 N; R 51/53 Repr. cat. 3; R63	Acute Tox. 4, Aquatic Chronic 2, Carc. 2, Repr. 2	H302, H351, H361fd, H411	GHS07, GHS08, GHS09, Wng			
CAS: 7488-55-3 ES: 231-302-2	Tin sulfate	1-3	Xi; R 36/37/38	Eye Irritation. 2, Skin Irritation. 2, PUSH THEM 3	H315, H319, H335	GHS07, Wng			

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### SECTION 4: First aid instructions 4.1.

#### Description of first aid In the event

of health problems or in case of doubt, inform the doctor and provide him with the information from this Safety Data Sheet.

If unconscious, place the victim in a stabilized position on his side, with the head slightly tilted, and ensure the airway is open, never induce vomiting.

If the victim is vomiting alone, take care not to inhale the vomit.

#### In case of

**inhalation** Move affected person to fresh air and ensure physical and mental peace.

Do not let cool.

If irritation persists, seek medical attention.

#### After skin contact

Remove all contaminated clothing immediately.

If possible, wash the affected parts of the skin with warm soapy water.

Seek medical attention.

#### In case of eye

**contact** Remove contact lenses.

If the eyelids are forcibly opened, flush for 10 - 15 minutes with clean, preferably lukewarm, running water and seek medical help.

#### If swallowed,

place the affected person at rest.

Rinse the mouth with water (only if the victim is conscious); never induce vomiting.

Drink about 0.2 liters of water.

Seek medical attention immediately and show the mixture container or label.

### 4.2. Most important acute and delayed symptoms and effects after inhalation

Possible respiratory

tract irritation, cough, headache. **in contact with skin** Painful

redness, irritation. **in**

**case of eye contact** Irritation, redness,

tearing, pain. **if**

**swallowed** Irritation, nausea.

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

not specified

### SECTION 5: Fire fighting measures 5.1. Extinguishers

#### Suitable

##### extinguishing agents

Non-flammable preparations.

The extinguishing agent is chosen according to the surrounding burning objects.

##### Unsuitable extinguishing

agents Not determined.

### 5.2. Special hazards arising from the substance or mixture

Due to the effect of high temperature, the preparation partially decomposes.

The vapors produced by strong heating of sulfuric acid cause strong burns to the eyes, skin and respiratory tract.

Inhalation of dangerous decomposition (pyrolysis) products can cause serious damage to health.

### 5.3. Instructions for firefighters

Cool closed containers with the mixture in the vicinity of the fire with water.

Do not let the contaminated extinguishing agent escape into the sewer, surface and ground water.

Use self-contained breathing apparatus and a full-body protective suit.

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### SECTION 6: Accidental release measures 6.1. Personal

**protection measures, protective equipment and emergency procedures** Avoid contact of the preparation with the skin - rubber gloves, rubber apron.  
Goggles or shield.

### 6.2. Environmental protection measures

Prevent leakage of the preparation into sewers, surface and underground drains.

### 6.3. Methods and material for containment and cleaning up

When spilled, transfer to a container mechanically with a plastic scoop or by soaking in sand, neutralize with lime, crushed limestone or soda and deposit in a chemical landfill, or hand it over to a hazardous waste collection point.

Small amounts of the product can be washed off with a large amount of water.

The product is only miscible with water to an unlimited extent.

The product must not be discharged into the sewage system without prior neutralization and dilution with a large excess of water.

### 6.4. No reference to other sections

### SECTION 7: Handling and storage 7.1.

#### Precautions for safe handling

Handle tinned objects with plastic tweezers.

It is safe to touch tinned objects with unprotected hands only after they have been rinsed with clean water.

### 7.2. Conditions for safe storage of substances and mixtures, including incompatible substances and mixtures

Store the preparation and its residues in closed plastic containers to avoid heat.

The preparation releases small amounts of hydrogen sulfide.

Instructions for joint storage: Do not store together with food and beverages.

Contents

0.5 liter

Type of packaging

HD

Storage temperature

22 °C

### 7.3. Specific end/specific end uses

Chemical tinning of copper.

### SECTION 8: Exposure controls/personal protective equipment 8.1. Control

#### parameters

Chemical name of the substance	CAS number	The highest permissible concentration in the air [mg/m <sup>3</sup> ]	
		PEL	NPK-P
Accumulator sulfuric acid	7664-93-9	1	2
Tin sulfate	7488-55-3	2	4

### 8.2. Limitation of exposure

#### Appropriate engineering controls

Observe the usual health protection measures when working and in particular good ventilation.

This can be achieved either by local exhaust or by effective general ventilation.

Eat well, don't drink or smoke.

Wash your hands thoroughly with soap and water after work and before breaks for meals and rest.

#### Eye and face protection

Safety glasses or a face shield (depending on the nature of the work performed).

#### Skin protection

Hand protection: Protective gloves resistant to the product.

Follow the recommendations of the specific glove manufacturer when choosing the appropriate thickness, material and permeability.

butyl rubber, polychloroprene, polyvinyl chloride 0.5 mm >= 8 hours

When working with a small amount of product, ordinary rubber gloves are sufficient.

Body protection: Rubber apron - only when handling large amounts of mixture.

#### Respiratory protection

When washing with a larger amount of the mixture, it is advisable to ensure ventilation of the workplace.

If necessary, a mask or half-mask with a filter against hydrogen sulfide.

#### Thermal hazard

not indicated

#### Limitation of environmental exposure

Take the usual environmental protection measures, see point 6.2.

Do not pour the used mixture down the drain or sewer.

### Additional information

4/9 Hydrogen sulfide PEL 10 NPK-P 20 mg.m<sup>-3</sup>. The exposure limits given apply to: Sulfuric acid, as SO<sub>3</sub>. Tin inorganic compounds such as Sn.

**Skin protection**

Hand protection: Protective gloves resistant to the product.

Follow the recommendations of the specific glove manufacturer when choosing the appropriate thickness, material and permeability.

butylkaučuk, polychloropren, polyvinylchlorid 0,5 mm >= 8 hod.

When working with a small amount of product, ordinary rubber gloves are sufficient.

Body protection: Rubber apron - only when handling large amounts of mixture.

**SAFETY DATA SHEET****Respiratory protection**

When using this product in a workplace, it is subject to the European Parliament and Council Regulation (EC) No. 1907/2006 (REACH) and Commission Regulation (EU) No. 453/2010

If necessary, a mask or half-mask with a filter against hydrogen sulfide.

**Tinning bath-CL-1****Thermal hazard**

Creation date not given December 17, 2008

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**Limiting environmental exposure**

Observe the usual environmental protection measures, see point 6.2.

Do not pour the used mixture down the drain or sewer.

**More information**

Hydrogen sulfide PEL 10 NPK-P 20 mg.m<sup>-3</sup>. The exposure limits given apply to: Sulfuric acid, as SO<sub>3</sub>. Tin inorganic compounds such as Sn.

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

appearance	Clear, slightly yellowish liquid with slight turbidity
state color	liquid at 20°C
odor	slightly yellowish
pH value	after hydrogen sulfide
explosive	0-1 undiluted at 22°C
properties relative density	doesn't have
solubility in water	1.26 g/cm <sup>3</sup> at °C
Information not given: Not applicable/not determined.	unlimited

**9.2. More information**

oxidation properties	doesn't have
content of organic solvents (VOC)	0

The mixture does not burn.

**SECTION 10: Stability and reactivity****10.1. Reactive**

The product is stable under normal conditions when stored in plastic or glass containers.

A small amount of sulfur excreted at the bottom of the container does not affect the effectiveness of the product.

The product can be stored at normal temperatures for a maximum of 4 months.

**10.2. Chemical stability**

The preparation can be used for a maximum of 4 months from the date of production, if it is stored at normal temperatures of 20-25 °C.

**10.3. Possibility of hazardous reactions**

It is necessary to work with the product in glass, plastic or undamaged enamel containers.

**10.4. Conditions to avoid**

The product must not come into contact with materials sensitive to acidic and strongly acidic environments.

Do not use strong bases for neutralization - watch out for an exothermic or violent reaction!

**10.5. Incompatible materials**

Strong bases, common metals reacting with sulfuric acid.

**10.6. Hazardous decomposition products**

The preparation releases small amounts of hydrogen sulfide.

**SECTION 11: Toxicological information****Acute toxicity of the components of the mixture**

Accumulator sulfuric acid			
LD50, oral, rat or rabbit	2140		mg.kg-1
Thiourea			
LD50, oral, rat or rabbit	264-1750		mg.kg-1
LD50, dermal, rat or rabbit	2800		mg.kg-1
Tin sulfate			
LD50, oral, rat or rabbit	2200		mg.kg-1



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## SECTION 13: Disposal considerations

Danger of environmental contamination, proceed according to Act No. 185/2001 Coll. on waste, as amended, and according to implementing regulations on waste disposal.

The mixture and its residues are corrosive transient metals.

### 13.1. Waste management methods Act No.

185/2001 Coll. on waste, as amended, Act No. 477/2001 Coll., on packaging and on the amendment of certain laws (the Packaging Act), as amended, Decree No. 376/2001 Coll., on the assessment of hazardous properties of waste, as amended, Decree No. 381/2001 Coll., (waste catalog) as amended, No. 383/2001 Coll., on details of waste management, as amended.

According to the Waste Catalog, the waste codes are not characteristic of the product, but of its use.

The originator of the waste and the authorized person classify the waste under the six-digit catalog numbers of the types of waste listed in the Waste Catalog.

Disposal together with ordinary waste is not allowed.

Take this material to a hazardous waste collection point.

Methods of disposal of contaminated packaging: Take this material and its packaging to a hazardous waste collection point.

## SECTION 14: Information for transport 14.1. UN number UN 2796

### 14.2. UN proper shipping name

SULFURIC ACID, containing no more than 51% acid or ELECTROLYTE FOR ACCUMULATORS (BATTERIES), ACID

### 14.3. Transport hazard class(es) 8 Corrosive substances 14.4

#### Packing group

II - moderately dangerous substances

### 14.5. Danger to the environment

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### 14.6. Special precautions for user Reference in sections 4 to 8.

### 14.7. Bulk transport according to Annex II of MARPOL 73/78 and the IBC regulation

not specified

### 14.8. Additional information Do not

transport in a vehicle that does not have a separate cargo area from the driver's area. Make sure that the driver of the vehicle is aware of the possible dangers associated with the load and knows what to do in the event of an accident or danger.

Hazard identification number

80

(Kemler code)

UN number

2796

Classification code

C1

Safety signs

8



### Air transport - ICAO/IATA

Limited quantity packing instructions

Packing instructions passenger

Cargo packing instructions

### Sea transport - IMDG

EMS (emergency plan)

FA, SB

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### SECTION 15: Regulatory Information

#### 15.1. Safety, health and environmental regulations/substance specific legislation or mixtures

##### Health regulations

Government Regulation No. 361/2007 Coll., which establishes the conditions for health protection at work. Act No. 20/1966 Coll., on the care of public health as amended. Decree No. 258/2000 Coll., on the protection of public health as amended.

##### Air Protection Regulations

Decree No. 355/2002 Coll. as amended, on emission limits.

##### Fire regulations

CNR Act No. 133/1985 Coll., as amended by applicable regulations. ýSN 65 0201 - Flammable liquids, operations and warehouses. Decree No. 246/2001 Coll., on fire prevention. Government Regulation No. 194/2001 Coll., which establishes the technical requirements for aerosol sprayers as amended by Government Regulation No. 305/2006.

#### 15.2. Chemical safety assessment

not specified

### 16. SECTION 16: Further information

#### List of standard hazard statements, the full wording of which is not given in other sections

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	It irritates the skin.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H361fd	Suspected impairment of reproductive capacity. Suspicion of damage to the fetus in the body mothers.
H411	Toxic to aquatic organisms, with long-term effects.

#### List of R-phrases, the full wording of which is not given in other sections

R 22	Harmful if swallowed
R 36/37/38	Irritating to eyes, respiratory organs and skin
R 51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

#### Additional information important from the point of view of safety and protection of human health

The product may not - without the special consent of the manufacturer/importer - be used for a purpose other than that specified in section 1. The user is responsible for compliance with all related health regulations.

#### Legend to abbreviations and acronyms used in the safety data sheet

CAS	A unique numerical identifier, used in chemistry for chemical substances
CLP	Classification, labeling and packaging
ýSN	Czech technical standard
EC50	The concentration of a substance at which 50% of the population is affected
IC50	Concentration causing 50% blockade
LC50	Lethal concentration of a substance at which 50% of the population can be expected to die
LD50	Lethal dose of a substance that can be expected to cause the death of 50% of the population
EINECS	European list of existing traded chemical substances
EmS	Contingency plan
ICAO	International Civil Aviation Organization
IATA	International Air Transport Association
IMDG	International maritime transport of dangerous goods
MFAG	First aid manual
MARPOL	International Convention for the Prevention of Pollution from Ships
REACH	Registration, evaluation and restriction of chemical substances (regulation of the EP and Council (EC) No. 1907/2006)
PBT	Persistent, bioaccumulative and toxic
vPvB	Highly persistent and highly bioaccumulative
IBC	International Code for the Construction and Equipment of Ships Carrying Hazardous Chemicals in Bulk
NPK	The highest permissible concentration
PEL	Permissible exposure limit

#### Training Guidelines

Familiarize workers with the recommended method of use, mandatory protective equipment, first aid and prohibited manipulations with the mixture.

#### Recommended use restrictions

not specified

#### Information on data sources used in compiling the safety data sheet

# SAFETY DATA SHEET

Date created 17 December 2008 **Recommended usage**Date of revision 8 March 2012  
restrictions  
not given

**Information on sources of data used in compiling the safety data sheet** Regulation of the European Parliament and Council (EC) No. 1907/2006 (REACH) as amended, Regulation of the European Commission and Council (EC) No. 1272/2008 as amended, Commission Regulation (EU) No. 453/2010, Directive 67/548/EEC as amended and 1999/45/EC, Commission Regulation (EU) No. 286/2011 amending, for the purpose of adaptation to scientific and technical progress, the Regulation of the European Parliament and the Council (EC) No. 1272/2008 on classification, labeling and packaging of substances and mixtures, Act No. 350/2011 Coll., on chemical substances and chemical mixtures as amended, Decree 402/2011 Coll. on the evaluation of the dangerous properties of chemical substances and chemical mixtures and the packaging and labeling of dangerous chemical mixtures, data from the company or enterprise, the database of dangerous substances.

**Changes made (which information was added, deleted or modified)**

Main changes made in points: 2., 3., 8., 9., 12., 13., 14., 16.

**Statement**

The safety data sheet contains information to ensure safety and health protection at work and environmental protection.

The given data correspond to the current state of knowledge and experience and are in accordance with valid legal regulations.

They cannot be considered as a guarantee of suitability or usability of the product for a specific application.