

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Electrolyte solution R201 AE for determination of lead and tin with flow coulometer EcaMon 105

Revision date: 02.11.2023

Product code: 21041

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

##### 1.1. Product identifier

Electrolyte solution R201 AE for determination of lead and tin with flow coulometer EcaMon 105

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

###### Use of the substance/mixture

Laboratory chemical

Industrial uses: Uses of substances as such or in preparations at industrial sites

Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

###### Uses advised against

Do not use for private purposes (household).

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

Company name:	AnalytiChem GmbH	
Street:	Stempelstraße 6	
Place:	D-47167 Duisburg	
Telephone:	0203/5194-0	Telefax: 0203/5194-290
E-mail:	info@analytichem.de	
Contact person:	Abteilung Produktsicherheit	Telephone: 0203/5194-107/117
E-mail:	produktsicherheit@analytichem.de	
Internet:	www.analytichem.de	
Responsible Department:	Abteilung Produktsicherheit	

##### 1.4. Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

##### Further Information

This product is a mixture. REACH Registration Number see section 3.

#### SECTION 2: Hazards identification

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

###### Regulation (EC) No 1272/2008

Met. Corr. 1; H290

Flam. Liq. 3; H226

Full text of hazard statements: see SECTION 16.

##### 2.2. Label elements

###### Regulation (EC) No 1272/2008

Signal word: Warning

Pictograms:



###### Hazard statements

H226 Flammable liquid and vapour.  
H290 May be corrosive to metals.

###### Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No

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P234 smoking.  
Keep only in original packaging.  
P390 Absorb spillage to prevent material damage.  
P403+P235 Store in a well-ventilated place. Keep cool.  
P406 Store in a corrosion-resistant container with a resistant inner liner.

#### 2.3. Other hazards

No information available.

### SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

##### Chemical characterization

Mixtures in aqueous solution

##### Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
64-17-5	ethanol			5 - < 10 %
	200-578-6	603-002-00-5	01-2119457610-43	
	Flam. Liq. 2, Eye Irrit. 2; H225 H319			

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

##### Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
64-17-5	200-578-6	ethanol	5 - < 10 %
	inhalation: LC50 = 124,7 mg/l (vapours); oral: LD50 = 10470 mg/kg Eye Irrit. 2; H319: >= 50 - 100		

##### Further Information

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

##### General information

No data available

##### After inhalation

Provide fresh air.  
Call a doctor if you feel unwell.

##### After contact with skin

Wash immediately with: Water  
Take off immediately all contaminated clothing and wash it before reuse.  
In case of skin irritation, consult a physician.

##### After contact with eyes

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.  
Remove contact lenses, if present and easy to do. Continue rinsing.  
Protect uninjured eye.

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#### After ingestion

Rinse mouth immediately and drink plenty of water.  
Call a physician immediately.

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

Irritant

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

No data available

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### Suitable extinguishing media

Water spray jet, Carbon dioxide (CO<sub>2</sub>), Foam, Extinguishing powder.

#### Unsuitable extinguishing media

no restriction

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

Combustible liquid.

In case of warming:

Vapours are heavier than air, spread along floors and form explosive mixtures with air.

Hazardous combustion products

### 5.3. Advice for firefighters

Avoid contact with skin, eyes and clothes.

In case of fire: Wear self-contained breathing apparatus.

#### Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Suppress gases/vapours/mists with water spray jet.

Move undamaged containers from immediate hazard area if it can be done safely.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### General advice

Keep away from sources of ignition - No smoking.

This material can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe).

Take action to prevent static discharges.

Corrosive to metals.

#### For non-emergency personnel

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

Emergency procedures

Do not breathe dust/fume/gas/mist/vapours/spray.

#### For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see 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 up

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#### For containment

- Cover drains.
- Prevent spread over a wide area (e.g. by containment or oil barriers).
- Collect in closed and suitable containers for disposal.
- Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

#### For cleaning up

- Clean contaminated articles and floor according to the environmental legislation.

#### Other information

- Provide adequate ventilation.
- Do not breathe dust/fume/gas/mist/vapours/spray.
- Wear breathing apparatus if exposed to vapours/dusts/aerosols.

#### 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

- Read label before use.

#### Advice on protection against fire and explosion

- Take action to prevent static discharges. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- In case of warming: Vapours may form explosive mixtures with air.

#### Advice on general occupational hygiene

- Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.
- Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

#### Further information on handling

- Take off immediately all contaminated clothing and wash it before reuse.
- If handled uncovered, arrangements with local exhaust ventilation have to be used.
- Draw up and observe skin protection programme.
- Wash hands and face before breaks and after work and take a shower if necessary.

### 7.2. Conditions for safe storage, including any incompatibilities

#### Requirements for storage rooms and vessels

- Keep container tightly closed. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

#### Hints on joint storage

- Do not store together with: Oxidising agent. Pyrophoric or self-heating substances.

#### Further information on storage conditions

- Corrosive to metals.
- Unsuitable container/equipment material: Metal

### 7.3. Specific end use(s)

- Laboratory use Laboratory chemical

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

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#### Occupational exposure limits

CAS No	Substance	ppm	mg/m <sup>3</sup>	fib/cm <sup>3</sup>	Category	Origin
64-17-5	Ethyl alcohol	1000	-		STEL (15 min)	

#### DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
64-17-5	ethanol			
	Worker DNEL, long-term	inhalation	systemic	950 mg/m <sup>3</sup>
	Worker DNEL, long-term	dermal	systemic	343 mg/kg bw/day
	Consumer DNEL, long-term	inhalation	systemic	114 mg/m <sup>3</sup>
	Consumer DNEL, long-term	dermal	systemic	206 mg/kg bw/day
	Consumer DNEL, long-term	oral	systemic	87 mg/kg bw/day

#### PNEC values

CAS No	Substance	Value
64-17-5	ethanol	
	Freshwater	0,96 mg/l
	Freshwater (intermittent releases)	2,75 mg/l
	Marine water	0,79 mg/l
	Freshwater sediment	3,6 mg/kg
	Marine sediment	2,9 mg/kg
	Secondary poisoning	380 mg/kg
	Micro-organisms in sewage treatment plants (STP)	580 mg/l
	Soil	0,63 mg/kg

#### 8.2. Exposure controls

##### Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.

If handled uncovered, arrangements with local exhaust ventilation have to be used.

##### Individual protection measures, such as personal protective equipment

##### Eye/face protection

Suitable eye protection: goggles.

##### Hand protection

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: [vertrieb@kcl.de](mailto:vertrieb@kcl.de) With specification (test according to EN374):

By long-term hand contact

Trade name/designation: KCL 897 Butoject®

Suitable material: Butyl caoutchouc (butyl rubber) 0,3 mm

Wearing time with permanent contact: > 480 min

By short-term hand contact

Trade name/designation: KCL 720 Camapren®

Suitable material: CR (polychloroprene, chloroprene rubber) 0,65 mm

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Wearing time with occasional contact (splashes): > 60 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet (>, <) supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

#### Skin protection

Flame-retardant protective clothing. Wear anti-static footwear and clothing

#### Respiratory protection

Respiratory protection necessary at: aerosol or mist formation

#### Environmental exposure controls

Do not empty into drains.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state:	Liquid	
Colour:	colourless	
Odour:	like: Ethanol	
Melting point/freezing point:		No data available
Boiling point or initial boiling point and boiling range:		No data available
Flammability:		not applicable
		not applicable
Lower explosion limits:		No data available
Upper explosion limits:		No data available
Flash point:		48 °C
Auto-ignition temperature:		No data available
Decomposition temperature:		No data available
pH-Value:		alkaline
Viscosity / kinematic:		No data available
Water solubility:		No data available
Solubility in other solvents		
not determined		
Partition coefficient n-octanol/water:		No data available
Vapour pressure:		No data available
Vapour pressure:		No data available
Density:		1,02741 g/cm <sup>3</sup>
Bulk density:		No data available
Relative vapour density:		No data available

### 9.2. Other information

#### Information with regard to physical hazard classes

##### Explosive properties

In case of warming:

Vapours can form explosive mixtures with air.

##### Sustaining combustion:

No data available

##### Self-ignition temperature

Solid:

not applicable

Gas:

not applicable

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Oxidizing properties  
Not oxidising.

#### Other safety characteristics

Evaporation rate:	No data available
Solvent separation test:	No data available
Solvent content:	No data available
Solid content:	No data available
Sublimation point:	No data available
Softening point:	No data available
Pour point:	No data available
No data available:	
Viscosity / dynamic:	No data available
Flow time:	No data available

#### Further Information

Corrosive to metals.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

In case of warming: Vapours can form explosive mixtures with air.  
Corrosive to metals.

### 10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

### 10.3. Possibility of hazardous reactions

Oxidising agent

### 10.4. Conditions to avoid

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Vapours can form explosive mixtures with air.

### 10.5. Incompatible materials

Metal  
Plastic articles  
Rubber articles

### 10.6. Hazardous decomposition products

In case of fire may be liberated:  
SECTION 5: Firefighting measures

#### Further information

No data available

## SECTION 11: Toxicological information

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

#### Toxicokinetics, metabolism and distribution

There are no data available on the preparation/mixture itself.

#### Acute toxicity

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

#### ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

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CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
64-17-5	ethanol				
	oral	LD50 mg/kg	10470	Rat	Study report (1976) OECD Guideline 401
	inhalation (4 h) vapour	LC50 mg/l	124,7	Rat	Study report (1980) OECD Guideline 403

**Irritation and corrosivity**

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

**Sensitising effects**

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

**Carcinogenic/mutagenic/toxic effects for reproduction**

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

**STOT-single exposure**

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

**STOT-repeated exposure**

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

**Aspiration hazard**

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

**Specific effects in experiment on an animal**

There are no data available on the preparation/mixture itself.

**Additional information on tests**

There are no data available on the preparation/mixture itself.

**Practical experience**

There are no data available on the preparation/mixture itself.

**11.2. Information on other hazards**

**Other information**

Irritant

**Further information**

Prolonged or repeated skin contact may cause removal of natural fat from the skin resulting in dermatitis (skin inflammation).

**SECTION 12: Ecological information**

**12.1. Toxicity**

There are no data available on the preparation/mixture itself.



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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
64-17-5	ethanol					
	Acute fish toxicity	LC50 15400 mg/l	96 h	Lepomis macrochirus	Bulletin of Environmental Contamination	other: EPA-660/3-75-009, 1975
	Acute algae toxicity	ErC50 ca. 22000 mg/l	96 h	Pseudokirchneriella subcapitata	Ecotoxicology and Environmental Safety 7	OECD Guideline 201
	Acute crustacea toxicity	EC50 > 10000 mg/l	48 h	Daphnia magna	Water Research 23(4): 495-499 (1989)	other: DIN 38412 Teil 11
	Algae toxicity	NOEC 5400 mg/l	5 d	Skeletonema costatum	Environ Toxicol Chem 8(5):451-455. (1989)	Study to determine the sensitivity of a
	Crustacea toxicity	NOEC 2 mg/l	10 d	Ceriodaphnia dubia	Arch Environ Contam Toxicol 20(2):211-21	Follows the basic methodology for the th

**12.2. Persistence and degradability**

There are no data available on the preparation/mixture itself.

**12.3. Bioaccumulative potential**

There are no data available on the preparation/mixture itself.

**Partition coefficient n-octanol/water**

CAS No	Chemical name	Log Pow
64-17-5	ethanol	-0,77

**BCF**

CAS No	Chemical name	BCF	Species	Source
64-17-5	ethanol	1	Cyprinus carpio	Comparative Biochemi

**12.4. Mobility in soil**

There are no data available on the preparation/mixture itself.

**12.5. Results of PBT and vPvB assessment**

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

There are no data available on the preparation/mixture itself.

**12.6. Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

**12.7. Other adverse effects**

Discharge into the environment must be avoided.

**Further information**

Do not allow to enter into surface water or drains.

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

**Disposal recommendations**

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Send to a physico-chemical treatment facility under observation of official regulations.

Do not empty into drains.

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**Contaminated packaging**

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

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

**SECTION 14: Transport information**

**Land transport (ADR/RID)**

<b>14.1. UN number or ID number:</b>	UN 2924
<b>14.2. UN proper shipping name:</b>	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ethanol, sodium hydroxide)
<b>14.3. Transport hazard class(es):</b>	3
<b>14.4. Packing group:</b>	III
Hazard label:	3+8
Classification code:	FC
Special Provisions:	274
Limited quantity:	5 L
Excepted quantity:	E1
Transport category:	3
Hazard No:	38
Tunnel restriction code:	D/E

**Inland waterways transport (ADN)**

<b>14.1. UN number or ID number:</b>	UN 2924
<b>14.2. UN proper shipping name:</b>	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ethanol, sodium hydroxide)
<b>14.3. Transport hazard class(es):</b>	3
<b>14.4. Packing group:</b>	III
Hazard label:	3+8
Classification code:	FC
Special Provisions:	274
Limited quantity:	5 L
Excepted quantity:	E1

**Marine transport (IMDG)**

<b>14.1. UN number or ID number:</b>	UN 2924
<b>14.2. UN proper shipping name:</b>	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ethanol, sodium hydroxide)
<b>14.3. Transport hazard class(es):</b>	3
<b>14.4. Packing group:</b>	III
Hazard label:	3+8
Special Provisions:	223, 274
Limited quantity:	5 L
Excepted quantity:	E1
EmS:	F-E, S-C

**Air transport (ICAO-TI/IATA-DGR)**

<b>14.1. UN number or ID number:</b>	UN 2924
<b>14.2. UN proper shipping name:</b>	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ethanol, sodium hydroxide)
<b>14.3. Transport hazard class(es):</b>	3
<b>14.4. Packing group:</b>	III
Hazard label:	3+8
Special Provisions:	A3 A803
Limited quantity Passenger:	1 L
Passenger LQ:	Y342
Excepted quantity:	E1
IATA-packing instructions - Passenger:	354
IATA-max. quantity - Passenger:	5 L

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IATA-packing instructions - Cargo: 365

IATA-max. quantity - Cargo: 60 L

#### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

#### 14.6. Special precautions for user

Warning: Combustible liquid.

#### 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

##### EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 40, Entry 75

Information according to Directive 2012/18/EU (SEVESO III): P5c FLAMMABLE LIQUIDS

##### National regulatory information

Water hazard class (D): 1 - slightly hazardous to water

### SECTION 16: Other information

#### Abbreviations and acronyms

Met. Corr: Substance or mixture corrosive to metals

Flam. Liq: Flammable liquid

Eye Irrit: Eye irritation

ADR: Accord européen sur le transport des marchandises dangereuses par Route  
(European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

#### Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

Classification	Classification procedure
Met. Corr. 1; H290	On basis of test data
Flam. Liq. 3; H226	On basis of test data

#### Relevant H and EUH statements (number and full text)

H225 Highly flammable liquid and vapour.

H226 Flammable liquid and vapour.

H290 May be corrosive to metals.

H319 Causes serious eye irritation.

#### Further Information

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

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processing, the information on this safety data sheet is not necessarily valid for the new made-up material. The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.  
The receiver of our product is singularly responsible for adhering to existing laws and regulations.

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*(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*