Safety data sheet

according to Regulation (EC) No 1907/2006 (REACH)

Printing date 02.02.2017 Version number 3 Revision: 02.02.2017

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

• **1.1 Product identifier**

• Trade name: L 5014
• Article number: 285138324

• Description: Acetic acid saturated with lithium chloride
• **1.2 Relevant identified uses of the substance or mixture and uses advised against:**
• Product category: PC21 Laboratory chemicals
• Process category: PROC15 Use as laboratory reagent

• Application of the substance / the preparation: Electrolyte solution

• **1.3 Details of the supplier of the safety data sheet**
• Manufacturer/Supplier:

Xylem Analytics Germany GmbH
Dr.-Karl-Slevogt-Str. 1
82362 Weilheim
Germany

Contact: SI Analytics, Mainz
Tel. +49.(0)6131.66.5111

• Further information obtainable from: E-Mail: msds.si@xyleminc.com
• **1.4 Emergency telephone number:** Chemtrec: (USA & Canada) 800-424-9300 (International) 001 703-527-3887

SECTION 2: Hazards identification

• **2.1 Classification of the substance or mixture**
• Classification according to Regulation (EC) No 1272/2008:

GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.

GHS05 corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.

GHS07

Acute Tox. 4 H312 Harmful in contact with skin.
Acute Tox. 4 H332 Harmful if inhaled.

• **2.2 Label elements:**
• 2.2.1 Labelling according to Regulation (EC) No 1272/2008:
The product is classified and labelled according to the CLP regulation.
• Hazard pictograms: GHS02, GHS05, GHS07
• Signal word: Danger

(Contd. on page 2)

Safety data sheet

according to Regulation (EC) No 1907/2006 (REACH)

Printing date 02.02.2017 Version number 3 Revision: 02.02.2017

Trade name: L 5014

(Contd. of page 1)

- Hazard-determining components of labelling:
  acetic acid
- Hazard statements:
  H226 Flammable liquid and vapour.
  H312+H332 Harmful in contact with skin or if inhaled.
  H314 Causes severe skin burns and eye damage.
- Precautionary statements:
  P280 Wear protective gloves/protective clothing/eye protection/face protection.
  P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
  P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  P309+P311 IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.
  P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
- **2.3 Other hazards** No further relevant information available.

SECTION 3: Composition/information on ingredients

- **3.2 Mixture**
- Description: Mixture of substances listed below with nonhazardous additions.

• Dangerous components:		
CAS: 64-19-7 EINECS: 200-580-7 Index number: 607-002-00-6	acetic acid Flam. Liq. 3, H226; Skin Corr. 1A, H314	50-<90%
CAS: 7447-41-8 EINECS: 231-212-3	lithium chloride Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319	10-25%

- Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- After inhalation:
  Take affected persons into fresh air and keep quiet.
  Seek immediate medical advice.
- After skin contact:
  Wash with plenty of water.
  Take off contaminated clothing.
  Seek immediate medical advice.
- After eye contact:
  Rinse opened eye for several minutes under running water.
  Protect unharmed eye.
  Call a doctor immediately.
- After swallowing:
  Make victim drink water immediately (2 glasses at most).
  Do not induce vomiting (risk of perforation)
  Call a doctor immediately.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
  No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- Suitable extinguishing agents:
  CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- For safety reasons unsuitable extinguishing agents: Water with full jet

(Contd. on page 3)

Safety data sheet

according to Regulation (EC) No 1907/2006 (REACH)

Printing date 02.02.2017 Version number 3 Revision: 02.02.2017

Trade name: L 5014

(Contd. of page 2)

• **5.2 Special hazards arising from the substance or mixture**
Vapors can form explosive mixture with air above 40 °C.
Development of corrosive and flammable vapors in the event of fire.
• **5.3 Advice for firefighters**
• Protective equipment: Wear self-contained respiratory protective device.
• Additional information
Cool endangered receptacles with water spray.
Collect contaminated fire fighting water separately. It must not enter the sewage system.

SECTION 6: Accidental release measures

• **6.1 Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation
Use respiratory protective device against the effects of fumes/dust/aerosol.
Keep away from ignition sources.
• **6.2 Environmental precautions:**
Suppress gases/fumes/haze with water spray.
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
• **6.3 Methods and material for containment and cleaning up:**
Dilute with water and neutralise with e.g. caustic soda solution, sodium bicarbonate, calcium carbonate.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose of the material collected according to regulations.
• **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

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SECTION 7: Handling and storage

• **7.1 Precautions for safe handling**
Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).
Use solvent-proof equipment.
Prevent formation of aerosols.
• Information about fire - and explosion protection:
Keep away from sources of ignition and hot surfaces.
Protect against electrostatic charges.
Vapors can form explosive mixture with air above 40 °C.

• **7.2 Conditions for safe storage, including any incompatibilities**
• Requirements to be met by storerooms and receptacles:
Store only in the original receptacle.
Provide acid-resistant floor.
• Information about storage in one common storage facility: Store away from oxidising agents.
• Further information about storage conditions:
Keep container tightly sealed.
Store receptacle in a well ventilated area.
• **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

• Additional information about design of technical facilities: No further data; see item 7.

• **8.1 Control parameters**

• Ingredients with limit values that require monitoring at the workplace:	
64-19-7 acetic acid	
IOELV	Long-term value: 25 mg/m³, 10 ppm

• Additional information: The lists valid during the making were used as basis.

(Contd. on page 4)

Safety data sheet

according to Regulation (EC) No 1907/2006 (REACH)

Printing date 02.02.2017 Version number 3 Revision: 02.02.2017

Trade name: L 5014

(Contd. of page 3)

• **8.2 Exposure controls**
• Personal protective equipment:
• General protective and hygienic measures:
Avoid contact with the eyes and skin.
Do not inhale gases / fumes / aerosols.
Take off contaminated clothing and wash it before reuse.
Do not eat or drink while working.
Storing food in the working area is prohibited.
Use skin protection cream for skin protection.
Wash hands before breaks and at the end of work.
• Respiratory protection:
Use suitable respiratory protective device only when aerosol or mist is formed.
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
• Recommended filter device for short term use: Combination filter E-P2
• Protection of hands:
Protective gloves
Protective gloves recommended for frequent or long-term skin contact.
• Material of gloves
Butyl rubber, BR
Recommended thickness of the material: ≥ 0,5 mm
Nitrile rubber, NBR
• Eye protection: Tightly sealed goggles

SECTION 9: Physical and chemical properties

• **9.1 Information on basic physical and chemical properties**	
• General Information	
• Appearance:	
Form:	Fluid
Colour:	Colourless
• Odour:	Pungent
• Change in condition	
Melting point/freezing point:	ca. 16 °C
Initial boiling point and boiling range:	119 °C
• Flash point:	40 °C (geschlossener Tiegel)
• Ignition temperature:	485 °C
• Explosive properties:	Vapors can form explosive mixture with air above 40 °C.
• Explosion limits:	
Lower:	4,0 Vol %
Upper:	17,0 Vol %
• Vapour pressure at 20 °C:	16 hPa
• Density at 20 °C:	1,09 g/cm³
• Solubility in / Miscibility with water:	Fully miscible.
• Partition coefficient: n-octanol/water:	-0,2 log POW (Eisessig)
• Viscosity:	
Dynamic:	Not determined.
Kinematic at 20 °C:	1,5 mm²/s

(Contd. on page 5)

Safety data sheet

according to Regulation (EC) No 1907/2006 (REACH)

Printing date 02.02.2017 Version number 3 Revision: 02.02.2017

Trade name: L 5014

(Contd. of page 4)

• **9.2 Other information**	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- Thermal decomposition / conditions to be avoided: Vapors can form explosive mixture with air above 40 °C.
- **10.3 Possibility of hazardous reactions**
  Violent reactions with strong alkalines an oxidants (e. g. chrome(VI) oxide, chromosulfuric acid, potassium permanganate, sodium peroxide, perchloric acid, phosphoros halides, hydrogen peroxide).
  Reacts with base metals forming hydrogen.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- Acute toxicity
  Harmful in contact with skin or if inhaled.

• LD/LC50 values relevant for classification:		
64-19-7 acetic acid		
Oral	LD50	3310 mg/kg (Rat)
Dermal	LD50	1060 mg/kg (Rabbit)
Inhalative	LC50	11,4 mg/l, 4 h (Rat) (IUCLID)
7447-41-8 lithium chloride		
Oral	LD50	526 mg/kg (Rat) (RTECS)

- Primary irritant effect:
- Skin corrosion/irritation
  Causes severe skin burns and eye damage.
- Serious eye damage/irritation
  Severe irritations, risk of cornea cloudness, risk of blindness.
  Causes serious eye damage.
- Respiratory or skin sensitisation Based on available data, the classification criteria are not met.

- Additional toxicological information:
  If ingested, severe burns of the mouth and throat, as well as a danger of the perforation of the oesophagus and the stomach.
- CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)
- Germ cell mutagenicity Based on available data, the classification criteria are not met.
- Carcinogenicity Based on available data, the classification criteria are not met.
- Reproductive toxicity 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.

SECTION 12: Ecological information

- **12.1 Toxicity**

• Aquatic toxicity:	
64-19-7 acetic acid	
EC50	47 mg/l, 24 h (Daphnia magna) (IUCLID)
LC50	75 mg/l, 96 h (Lepomis macrochirus) (IUCLID)

- **12.2 Persistence and degradability** The organic part of the mixture is easily biodegradable.

(Contd. on page 6)

Safety data sheet

according to Regulation (EC) No 1907/2006 (REACH)

Printing date 02.02.2017 Version number 3 Revision: 02.02.2017

Trade name: L 5014

(Contd. of page 5)

• **12.3 Bioaccumulative potential**
Due to the distribution coefficient n-octanol/water a worth-mentioning accumulation in organisms is not expected.
• **12.4 Mobility in soil** No further relevant information available.
• Additional ecological information:
• General notes:
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Detrimental effect due to shift of pH value.
• **12.5 Results of PBT and vPvB assessment** Not applicable.
• **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

• **13.1 Waste treatment methods**
• Recommendation
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
Disposal must comply with the relevant local regulations. We recommend that you contact either the authorities in charge or approved waste disposal companies which will advise you on how to dispose the special waste.

• European waste catalogue	
20 00 00	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS
20 01 00	separately collected fractions (except 15 01)
20 01 14*	acids

• Uncleaned packaging:
• Recommendation:
Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.
Packagings that may not be cleansed are to be disposed of in the same manner as the product.
• Recommended cleansing agents: Water, if necessary together with cleansing agents.

SECTION 14: Transport information

• **14.1 UN-Number**
• ADR/RID, IMDG, IATA UN2789

• **14.2 UN proper shipping name**
• ADR/RID 2789 ACETIC ACID, GLACIAL
• IMDG, IATA ACETIC ACID, GLACIAL

• **14.3 Transport hazard class(es)**

• ADR/RID

• Class 8 Corrosive substances.
• Label 8+3

• IMDG

• Class 8 Corrosive substances.

(Contd. on page 7)

Safety data sheet

according to Regulation (EC) No 1907/2006 (REACH)

Printing date 02.02.2017 Version number 3 Revision: 02.02.2017

Trade name: L 5014

(Contd. of page 6)

• Label	8/3
• IATA	
	
• Class	8 Corrosive substances.
• Label	8 (3)
• **14.4 Packing group**	
• ADR/RID, IMDG, IATA	II
• **14.5 Environmental hazards:**	
• Marine pollutant:	No
• **14.6 Special precautions for user**	Warning: Corrosive substances.
• Danger code (Kemler):	83
• EMS Number:	F-E,S-C
• Segregation groups	Acids
• Stowage Category	A
• **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.
• ADR/RID	
• Limited quantities (LQ)	1 L
• Transport category	2
• Tunnel restriction code	D/E
• UN "Model Regulation":	UN 2789 ACETIC ACID, GLACIAL, 8 (3), II

SECTION 15: Regulatory information

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

• Directive 2012/18/EU
• Named dangerous substances - ANNEX I None of the ingredients is listed.
• Seveso category P5c FLAMMABLE LIQUIDS
• Qualifying quantity (tonnes) for the application of lower-tier requirements 5.000 t
• Qualifying quantity (tonnes) for the application of upper-tier requirements 50.000 t
• REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3
• **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

• Relevant phrases
H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
• Abbreviations and acronyms:
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organisation
ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)
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

(Contd. on page 8)

Safety data sheet

according to Regulation (EC) No 1907/2006 (REACH)

Printing date 02.02.2017 Version number 3 Revision: 02.02.2017

Trade name: L 5014

(Contd. of page 7)

GHS: Globally Harmonised 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 (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 3: Flammable liquids – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Skin Corr. 1A: Skin corrosion/irritation – Category 1A
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

• * Data compared to the previous version altered.