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

1.1 Product identifier

Trade name/designation:

Conducting silver

Other means of identification:

UFI: 1G10-S0JC-1001-258E

Article No.: LSL-030

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

Paints and varnishes.

Restricted to professional users.

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

ProGlass GmbH

Michael-Becker-Str. 2

73235 Weilheim an der Teck

GERMANY

Telephone: +49 7023 90013-0
Telefax: +49 7023 90013-23
E-mail: info@proglass.de
Website: www.proglass.de

E-mail (competent person): info@proglass.de

1.4 Emergency phone number

24h: +49 551 19240

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]:

Hazard classes and hazard categories	Hazard statements	Classification procedure
STOT-single exposure (STOT SE 3)	H336: May cause drowsiness or dizziness.	Calculation
Flammable liquids (Flam. Liq. 2)	H225: Highly flammable liquid and vapour.	Test data
Hazardous to the aquatic environment (Aquatic Acute 1)	H400: Very toxic to aquatic life.	Calculation
Hazardous to the aquatic environment (Aquatic Chronic 1)	H410: Very toxic to aquatic life with long lasting effects.	Calculation

2.2 Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms:







GHS02 Flame

GHS07 Exclamation mark

GHS09 Environment

Signal word: Danger

Hazard statements	s for physical hazards
H225	Highly flammable liquid and vapour.

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Hazard statements	s for health hazards	
H336	May cause drowsiness or dizziness.	

Hazard statements for environmental hazards		
H410	Very toxic to aquatic life with long lasting effects.	

Precautionary statements - Prevention		
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smo-king.	
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.	
P273	Avoid release to the environment.	
P280	Wear protective gloves/protective clothing/eye protection/face protection.	

Precautionary statements - Response		
P302+P352 IF ON SKIN: Wash with plenty of soap and water.		
P314	Get medical advice/attention if you feel unwell.	

2.3 Other hazards

Adverse human health effects and symptoms:

May cause eye irritation.

SECTION 3: Composition / information on ingredients

3.2 Mixtures

Ingredients:

Product identifiers	Substance name Classification according to Regulation (EC) No. 1272/2008 [CLP]	Content
CAS No.: 7440-22-4 EC No.: 231-131-3 REACH No.: 01-2119555669-21	silver Aquatic Acute 1, Aquatic Chronic 1 Warning H410 M-factor (acute): 10 M-factor (chronic): 10	≥ 25 - < 50 weight-%
CAS No.: 1569-02-4 EC No.: 216-374-5 REACH No.: 01-2119462792-32	1-ethoxypropan-2-ol Flam. Liq. 3, STOT SE 3	≥ 20 - < 25 weight-%
CAS No.: 64-17-5 EC No.: 200-578-6 REACH No.: 01-2119457610-43	Ethanol Eye Irrit. 2, Flam. Liq. 2 Danger H225-H319	≥ 10 - < 20 weight-%
CAS No.: 67-64-1 EC No.: 200-662-2 REACH No.: 01-2119471330-49	Acetone Eye Irrit. 2, Flam. Liq. 2, STOT SE 3 Danger H225-H319-H336-EUH066	≥ 3 - < 10 weight-%
CAS No.: 9004-70-0	Cellulose nitrate Flam. Sol. 1 Danger H228	< 10 weight-%

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

SECTION 4: First aid measures

4.1 Description of first aid measures

General information:

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Remove victim out of the danger area. Take off immediately all contaminated clothing. If unconscious but breathing normally, place in recovery position and seek medical advice. Do not leave affected person unattended.

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Following inhalation:

Provide fresh air.

In case of skin contact:

Wash immediately with: Water and soap. In case of skin irritation, consult a physician.

After eve contact:

Do not subject to friction. Rinse immediately carefully and thoroughly with eye-bath or water. In case of eye irritation consult an ophthalmologist.

Following ingestion:

Rinse mouth. Get immediate medical advice/attention.

4.2 Most important symptoms and effects, both acute and delayed

May cause drowsiness or dizziness.

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:

Alcohol resistant foam, extinguishing powder, carbon dioxide (CO₂).

Unsuitable extinguishing media:

Full water jet

5.2 Special hazards arising from the substance or mixture

Highly flammable. Vapours can form explosive mixtures with air.

Hazardous combustion products:

In case of fire may be liberated: carbon monoxide (CO); carbon dioxide (CO $_2$); metal oxides.

5.3 Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing.

5.4 Additional information

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

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel

Personal precautions:

Provide adequate ventilation. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with eyes and skin. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Special danger of slipping by leaking/spilling product. Remove persons to safety.

Protective equipment:

Wear protective gloves/protective clothing/eye protection/face protection.

6.1.2 For emergency responders

Personal protection equipment:

Personal protection equipment: see section 8.

6.2 Environmental precautions

Do not allow to enter into surface water or drains.

Do not allow to enter into soil/subsoil.

6.3 Methods and material for containment and cleaning up

For containment:

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

For cleaning up:

Solvent / Water with tenside additive

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6.4 Reference to other sections

Safe handling: see section 7.

Personal protection equipment: see section 8.

Disposal: see section 13.

6.5 Additional information

Use appropriate container to avoid environmental contamination.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures

Advices on safe handling:

Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Repeated exposure may cause skin dryness or cracking. Wear personal protection equipment (refer to section 8).

Fire prevent measures:

Highly flammable: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use explosion-proof machinery, apparatus, ventilation facilities, tools etc. Take precautionary measures against static discharges.

Environmental precautions:

Discharge into the environment must be avoided.

Advices on general occupational hygiene

Wash hands before breaks and after work. When using do not eat, drink or smoke. Take off contaminated clothing and wash it before reuse.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions:

Keep container tightly closed in a cool, well-ventilated place.

Requirements for storage rooms and vessels:

Material, solvent-resistant. Keep/Store only in original container.

Hints on storage assembly:

Keep away from combustible material. Do not store together with: Substances, Storage class 6.1. Keep away from food, drink and animal feedingstuffs.

Further information on storage conditions:

Protect from sunlight. Store in a well-ventilated place.

7.3 Specific end use(s)

Recommendation:

Paints and varnishes.

Observe instructions for use.

SECTION 8: Exposure controls / Personal protection

8.1 Control parameters

8.1.1 Occupational exposure limit values

Limit value type (country)	Substance name	 Long-term occupational exposure limit value Short-term occupational exposure limit value Instantaneous value Monitoring and observation processes Remark
IOELV (EU)	silver CAS No.: 7440-22-4	① 0.01 mg/m³ ⑤ (silver compounds, soluble, calculated as Ag)
WEL (GB)	silver CAS No.: 7440-22-4	① 0.01 mg/m³ ⑤ (compounds, soluble; calculated as Ag)
IOELV (EU)	silver CAS No.: 7440-22-4	① 0.1 mg/m³ ⑤ (metal)

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Limit value type (country)	Substance name	 Long-term occupational exposure limit value Short-term occupational exposure limit value Instantaneous value Monitoring and observation processes Remark
WEL (GB)	silver CAS No.: 7440-22-4	① 0.1 mg/m³ ⑤ (metal)
WEL (GB)	Ethanol CAS No.: 64-17-5	① 1,000 ppm (1,920 mg/m³)
IOELV (EU)	Acetone CAS No.: 67-64-1	① 500 ppm (1,210 mg/m³)
WEL (GB)	Acetone CAS No.: 67-64-1	① 500 ppm (1,210 mg/m³) ② 1,500 ppm (3,620 mg/m³)

8.1.2 Biological limit values

No data available.

8.1.3 DNEL-/PNEC-values

Substance name	DNEL value	① DNEL type	
		② Exposure route	
Ethanol	600 mg/m ³	① DNEL worker	
CAS No.: 64-17-5		② Long-term – inhalation, systemic effects	
Ethanol	106 mg/m ³	① DNEL worker	
CAS No.: 64-17-5		② Long-term – inhalation, systemic effects	
Ethanol	114 mg/m³	① DNEL consumer	
CAS No.: 64-17-5		② Long-term – inhalation, systemic effects	
Ethanol	1,900 mg/m³	① DNEL worker	
CAS No.: 64-17-5		② Acute - inhalation, local effects	
Ethanol	950 mg/m ³	① DNEL worker	
CAS No.: 64-17-5		② Acute - inhalation, local effects	
Ethanol	1,161 mg/kg	① DNEL worker	
CAS No.: 64-17-5	bw/day	② Long-term - dermal, systemic effects	
Ethanol	412 mg/kg	① DNEL worker	
CAS No.: 64-17-5	bw/day	② Long-term - dermal, systemic effects	
Ethanol	206 mg/kg	① DNEL consumer	
CAS No.: 64-17-5		② Long-term - dermal, systemic effects	
Ethanol	31 mg/kg	① DNEL worker	
CAS No.: 64-17-5	bw/day	② Long-term - oral, systemic effects	
Ethanol	87 mg/kg	① DNEL consumer	
CAS No.: 64-17-5		② Acute – oral, systemic effects	
Acetone	1,210 mg/m³	① DNEL worker	
CAS No.: 67-64-1		② Long-term – inhalation, systemic effects	
Acetone	200 mg/m ³	① DNEL consumer	
CAS No.: 67-64-1		② Long-term – inhalation, systemic effects	
Acetone	2,420 mg/m ³	① DNEL worker	
CAS No.: 67-64-1		② Acute - inhalation, systemic effects	
Acetone	186 mg/kg	① DNEL worker	
CAS No.: 67-64-1		② Long-term - dermal, systemic effects	
Acetone	62 mg/kg	① DNEL consumer	
CAS No.: 67-64-1		② Long-term - dermal, systemic effects	

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Substance name	① DNEL type② Exposure route
Acetone CAS No.: 67-64-1	① DNEL consumer ② Long-term - oral, systemic effects

Substance name	PNEC value	① PNEC type
Ethanol CAS No.: 64-17-5	0.96 mg/L	① PNEC aquatic, freshwater
Ethanol CAS No.: 64-17-5	0.79 mg/L	① PNEC aquatic, marine water
Ethanol CAS No.: 64-17-5	3.6 mg/kg	① PNEC sediment, freshwater
Ethanol CAS No.: 64-17-5	287.7 mg/kg	① PNEC sediment, marine water
Ethanol CAS No.: 64-17-5	0.63 mg/kg	① PNEC soil, freshwater
Acetone CAS No.: 67-64-1	10.6 mg/L	① PNEC aquatic, freshwater
Acetone CAS No.: 67-64-1	1.06 mg/L	① PNEC aquatic, marine water
Acetone CAS No.: 67-64-1	100 mg/L	① PNEC sewage treatment plant
Acetone CAS No.: 67-64-1	30.4 mg/kg	① PNEC sediment, freshwater
Acetone CAS No.: 67-64-1	3.04 mg/kg	① PNEC sediment, marine water
Acetone CAS No.: 67-64-1	21 mg/L	① PNEC aquatic, intermittent release
Acetone CAS No.: 67-64-1	33.3 mg/kg	① PNEC soil, freshwater

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment. Generation/formation of aerosols: Devices with local exhaust / Technical ventilation of workplace

8.2.2 Personal protection equipment







Eye/face protection:

Eye glasses with side protection (EN 166).

Skin protection:

Tested protective gloves must be worn (EN ISO 374).

Suitable material: NBR (Nitrile rubber)
Thickness of the glove material: ≥ 0,11 mm

Breakthrough time:: ≥ 480 min

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. Check leak tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. Recommendation: Draw up and observe skin protection programme.

Respiratory protection:

If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn. Combination filtering device, Filter type A-P2.

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Other protection measures:

Wear anti-static footwear and clothing

8.2.3 Environmental exposure controls

No data available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state: liquid Colour: silver grey

Odour: slightly sweet

Safety relevant basic data

Parameter		at	Method	Remark
рН	not applicable			
Melting point	not determined			
Freezing point	not determined			
Initial boiling point and boiling range	not determined			
Decomposition temperature	not determined			
Flash point	12 °C		c.c.	
Evaporation rate	not determined			
Auto-ignition temperature	not determined			
Upper/lower flammability or explosive limits	2 - 19 Vol-%			
Vapour pressure	> 1,100 - 1,750 hPa	50 °C		
Vapour density	not determined			
Density	≈ 1.44 g/ml	20 °C		
Bulk density	not applicable			
Water solubility	partially soluble			
Partition coefficient: n-octanol/ water	not determined			
Dynamic viscosity	not determined			
Kinematic viscosity	not determined			

9.2 Other information

No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity

Highly flammable.

10.2 Chemical stability

The product is chemically stable under recommended conditions of storage, use and temperature.

10.3 Possibility of hazardous reactions

No hazardous reaction when handled and stored according to provisions.

Vapours can form explosive mixtures with air.

10.4 Conditions to avoid

Protect from sunlight. Store in a well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

10.5 Incompatible materials

No data available.

10.6 Hazardous decomposition products

No known hazardous decomposition products.

In case of fire may be liberated: carbon monoxide (CO); carbon dioxide (CO₂); metal oxides.

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Further information

No data available.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

CAS No.	Substance name	Toxicological information
67-64-1	Acetone	LC ₅₀ Acute inhalation toxicity (vapour):
		76 mg/L 4 h (Rat)

Acute oral toxicity:

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

Acute dermal toxicity:

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

Acute inhalation toxicity:

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

Skin corrosion/irritation:

Based on available data, the classification criteria are not met. Repeated exposure may cause skin dryness or cracking.

Serious eye damage/irritation:

Based on available data, the classification criteria are not met. May cause eye irritation.

Respiratory or skin sensitisation:

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

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:

Vapours may cause drowsiness and dizziness.

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.

Additional information:

No data available.

SECTION 12: Ecological information

12.1 Toxicity

CAS No.	Substance name	Toxicological information
7440-22-4	silver	LC ₅₀ : 0.016 mg/L 4 d (fish, Pimephales promelas
		(fathead minnow))

Aquatic toxicity:

Very toxic to aquatic life with long lasting effects.

12.2 Persistence and degradability

Biodegradation:

Not readily biodegradable (according to OECD criteria)

12.3 Bioaccumulative potential

Accumulation / Evaluation:

No indication of bioaccumulation potential.

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12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

CAS No.	Substance name	Results of PBT and vPvB assessment
7440-22-4	silver	_

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

12.6 Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste treatment options

Appropriate disposal / Product:

Dispose of waste according to applicable legislation. Consult the appropriate local waste disposal expert about waste disposal.

Appropriate disposal / Package:

Dispose of waste according to applicable legislation. Completely emptied packages can be recycled.

Other disposal recommendations:

The allocation of waste code numbers / waste names must be carried out in accordance with the European Waste Catalogue (EWC). Collect in closed and suitable containers for disposal. Do not allow to enter into surface water or drains.

13.2 Additional information

Waste for disposal is to be classified and labelled.

SECTION 14: Transport information

Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI-/IATA-DGR)
14.1 UN-No.			
1993	1993	1993	1993
14.2 UN proper shi	pping name		
FLAMMABLE LIQUID, N.O.S. (Ethanol, Acetone)	FLAMMABLE LIQUID, N.O.S. (Ethanol, Acetone)	FLAMMABLE LIQUID, N.O.S. (Ethanol, Acetone)	FLAMMABLE LIQUID, N.O.S. (Ethanol, Acetone)
14.3 Transport haz	ard class(es)		
*	*	*	*
3	3	3	3
14.4 Packing group	o		
II	II	II	II
14.5 Environmenta	l hazards		
<u> </u>	<u>\(\frac{\frac{1}{2}}{2}\)</u>	£	<u>\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</u>
		MARINE POLLUTANT	

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Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI-/IATA-DGR)	
14.6 Special precaut	14.6 Special precautions for user			
Special provisions: 640C Limited Quantity (LQ): 5 L Excepted Quantities (EQ): Hazard identification number (KemlerNo.):	Special provisions: 640C Limited Quantity (LQ): not determined Excepted Quantities (EQ): Classification code: F1	Special provisions: not determined Limited Quantity (LQ): not determined Excepted Quantities (EQ): EmS-No.: F-E; S-E Remark: -	Special provisions: not determined Limited Quantity (LQ): not determined Excepted Quantities (EQ): Remark: -	
Classification code: F1 Tunnel restriction code: (D/E) Remark: -	Remark: -			

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

not determined

Additional information:

Transport as "limited quantity" according to chapter 3.4 ADR/RID Transport as "Excepted Quantity" according to chapter 3.5 ADR/RID

SECTION 15: Regulatory information

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

15.1.1 EU legislation

Restrictions on use:

Use restriction according to REACH annex XVII, no.: none

Other EU regulations:

Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).

VOC content (EU): 376,94 g/L

15.1.2 National regulations

No data available.

15.2 Chemical Safety Assessment

No data available.

SECTION 16: Other information

16.1 Indication of changes

No data available.

16.2 Abbreviations and acronyms

See overview table at www.euphrac.eu

16.3 Key literature references and sources for data

European Chemicals Agency (ECHA): http://www.echa.europa.eu

ECHA, C&L Inventory: http://echa.europa.eu/information-on-chemicals/cl-inventory-database ECHA, Registered substances: http://echa.europa.eu/information-on-chemicals/registered-substances GESTIS (Gefahrstoffinformationssystem der DGUV): http://www.dguv.de/ifa/GESTIS/index.jsp

Hörath Gefährliche Stoffe und Gemische, 8. Auflage, Dr. Angela Schulz

Safety data sheets of the manufacturers

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16.4 Classification for mixtures and used evaluation method according to regulation (EC) No. 1272/2008 [CLP]

Classification according to Regulation (EC) No. 1272/2008 [CLP]:

Hazard classes and hazard categories	Hazard statements	Classification procedure
STOT-single exposure (STOT SE 3)	H336: May cause drowsiness or dizziness.	Calculation
Flammable liquids (Flam. Liq. 2)	H225: Highly flammable liquid and vapour.	Test data
Hazardous to the aquatic environment (Aquatic Acute 1)	H400: Very toxic to aquatic life.	Calculation
Hazardous to the aquatic environment (Aquatic Chronic 1)	H410: Very toxic to aquatic life with long lasting effects.	Calculation

16.5 Relevant H- and EUH-phrases

Hazard statements	
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H228	Flammable solid.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H410	Very toxic to aquatic life with long lasting effects.

Supplemental hazard information	
EUH066	Repeated exposure may cause skin dryness or cracking.

16.6 Training advice

No data available.

16.7 Additional information

The information in this safety data sheet has been established to our best knowledge and was upto-date at time of revision. The information is intended to give you advice about the safe handling of the product for storage, processing, transport and disposal. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.