



## 1 Identification

- **Product identifier**
- **Trade name:** LSR/30
- **Article number:** LSR/30
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Chemical Consultants Inc.  
1850 Wild Turkey Circle  
Corona, CA 92880  
USA  
+1 (951) 735-5511  
ncollins@ccidom.com
- **Information department:** Product safety department
- **Emergency telephone number:** INFOTRAC 1-800-535-5053

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS05 Corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Flam. Liq. 4 H227 Combustible liquid.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS05 GHS07

- **Signal word** Danger
- **Hazard-determining components of labeling:**  
N-cyclohexyl-2-pyrrolidone  
2-pyrrolidone  
potassium hydroxide  
sodium hydroxide
- **Hazard statements**  
H227 Combustible liquid.  
H302 Harmful if swallowed.  
H314 Causes severe skin burns and eye damage.
- **Precautionary statements**  
P210 Keep away from flames and hot surfaces. – No smoking.  
P260 Do not breathe dusts or mists.



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- P264 Wash thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P280 Wear protective gloves / eye protection / face protection.
- P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.
- P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.
- P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- 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.
- P321 Specific treatment (see on this label).
- P337+P313 If eye irritation persists: Get medical advice/attention.
- P363 Wash contaminated clothing before reuse.
- P370+P378 In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.
- P403+P235 Store in a well-ventilated place. Keep cool.
- P405 Store locked up.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- Other hazards
- Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.

### 3 Composition/information on ingredients

- Chemical characterization: Mixtures
- Description: Mixture of the substances listed below with nonhazardous additions.

· Dangerous components:

97-99-4	tetrahydro-2-furylmethanol	20-40%
112-34-5	2-(2-butoxyethoxy)ethanol	10-20%
6837-24-7	N-cyclohexyl-2-pyrrolidone	1-10%
616-45-5	2-pyrrolidone	1-10%
1310-58-3	potassium hydroxide	1-10%
1310-73-2	sodium hydroxide	1-10%
107-98-2	1-methoxy-2-propanol	1-5%
111-76-2	2-butoxyethanol	1-5%
3445-11-2	1-(2-Hydroxyethyl)-2-pyrrolidone	1-5%
68439-46-3	Alcohols, C9-11, ethoxylated	1-5%
2687-94-7	1-octyl-2-pyrrolidone	1-5%

### 4 First-aid measures

- Description of first aid measures
- General information:
  - Immediately remove any clothing soiled by the product.
  - Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- After inhalation: In case of unconsciousness place patient stably in side position for transportation.
- After skin contact: Immediately wash with water and soap and rinse thoroughly.

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- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**  
Immediately call a doctor.  
Drink copious amounts of water and provide fresh air. Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**  
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Mount respiratory protective device.  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Dilute with plenty of water.  
For large spills: Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Use neutralizing agent.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **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.
- **Protective Action Criteria for Chemicals**

· **PAC-1:**

112-34-5	2-(2-butoxyethoxy)ethanol	30 ppm
616-45-5	2-pyrrolidone	6.9 ppm
1310-58-3	potassium hydroxide	0.18 mg/m <sup>3</sup>
1310-73-2	sodium hydroxide	0.5 mg/m <sup>3</sup>
107-98-2	1-methoxy-2-propanol	100 ppm
111-76-2	2-butoxyethanol	60 ppm
102-71-6	Triethanolamine	15 mg/m <sup>3</sup>
68391-01-5	Quaternary ammonium compounds, benzyl-C12-18-alkyldimethyl, chlorides	0.61 mg/m <sup>3</sup>

· **PAC-2:**

112-34-5	2-(2-butoxyethoxy)ethanol	33 ppm
616-45-5	2-pyrrolidone	76 ppm

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1310-58-3	potassium hydroxide	2 mg/m <sup>3</sup>
1310-73-2	sodium hydroxide	5 mg/m <sup>3</sup>
107-98-2	1-methoxy-2-propanol	160 ppm
111-76-2	2-butoxyethanol	120 ppm
102-71-6	Triethanolamine	240 mg/m <sup>3</sup>
68391-01-5	Quaternary ammonium compounds, benzyl-C12-18-alkyldimethyl, chlorides	6.8 mg/m <sup>3</sup>
<b>· PAC-3:</b>		
112-34-5	2-(2-butoxyethoxy)ethanol	200 ppm
616-45-5	2-pyrrolidone	460 ppm
1310-58-3	potassium hydroxide	54 mg/m <sup>3</sup>
1310-73-2	sodium hydroxide	50 mg/m <sup>3</sup>
107-98-2	1-methoxy-2-propanol	660 ppm
111-76-2	2-butoxyethanol	700 ppm
102-71-6	Triethanolamine	1,500 mg/m <sup>3</sup>
68391-01-5	Quaternary ammonium compounds, benzyl-C12-18-alkyldimethyl, chlorides	60 mg/m <sup>3</sup>

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.  
At this time, the other constituents have no known exposure limits.

<b>97-99-4 tetrahydro-2-furylmethanol</b>	
WEEL	Long-term value: 0.5 ppm
<b>112-34-5 2-(2-butoxyethoxy)ethanol</b>	
TLV	Long-term value: 67.5* mg/m <sup>3</sup> , 10* ppm *Inhalable fraction and vapor

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**1310-58-3 potassium hydroxide**

REL Ceiling limit value: 2 mg/m<sup>3</sup>  
TLV Ceiling limit value: 2 mg/m<sup>3</sup>

**1310-73-2 sodium hydroxide**

PEL Long-term value: 2 mg/m<sup>3</sup>  
REL Ceiling limit value: 2 mg/m<sup>3</sup>  
TLV Ceiling limit value: 2 mg/m<sup>3</sup>

**107-98-2 1-methoxy-2-propanol**

REL Short-term value: 540 mg/m<sup>3</sup>, 150 ppm  
Long-term value: 360 mg/m<sup>3</sup>, 100 ppm  
TLV Short-term value: 369 mg/m<sup>3</sup>, 100 ppm  
Long-term value: 184 mg/m<sup>3</sup>, 50 ppm

**111-76-2 2-butoxyethanol**

PEL Long-term value: 240 mg/m<sup>3</sup>, 50 ppm  
Skin  
REL Long-term value: 24 mg/m<sup>3</sup>, 5 ppm  
Skin  
TLV Long-term value: 97 mg/m<sup>3</sup>, 20 ppm  
BEI

**· Ingredients with biological limit values:**

**111-76-2 2-butoxyethanol**

BEI 200 mg/g creatinine  
Medium: urine  
Time: end of shift  
Parameter: Butoxyacetic acid with hydrolysis

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing.
- Wash hands before breaks and at the end of work.
- Avoid contact with the eyes.
- Avoid contact with the eyes and skin.

· **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

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· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

**9 Physical and chemical properties**

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

· <b>Form:</b>	Fluid
· <b>Color:</b>	According to product specification
· <b>Odor:</b>	Characteristic
· <b>Odor threshold:</b>	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

· <b>Melting point/Melting range:</b>	Undetermined.
· <b>Boiling point/Boiling range:</b>	100 °C (212 °F)

· **Flash point:** 74 °C (165.2 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 240 °C (464 °F)

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Not determined.

· **Explosion limits:**

· <b>Lower:</b>	1.5 Vol %
· <b>Upper:</b>	9.7 Vol %

· **Vapor pressure at 20 °C (68 °F):** 23 hPa (17.3 mm Hg)

· **Density at 20 °C (68 °F):** 1.152 g/cm<sup>3</sup> (9.61344 lbs/gal)

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with**

· **Water:** Fully miscible.

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

· <b>Dynamic:</b>	Not determined.
· <b>Kinematic:</b>	Not determined.

· **Solvent content:**

· **VOC content:** 387.0 g/l / 3.23 lb/gal

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· **Other information** No further relevant information available.

### 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

**97-99-4 tetrahydro-2-furylmethanol**

Oral	LD50	1,600 mg/kg (rat)
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**1310-58-3 potassium hydroxide**

Oral	LD50	273 mg/kg (rat)
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**1310-73-2 sodium hydroxide**

Oral	LD50	2,000 mg/kg (rat)
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**2687-94-7 1-octyl-2-pyrrolidone**

Oral	LD50	2,050 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rab)

- **Primary irritant effect:**
- **on the skin:** Strong caustic effect on skin and mucous membranes.
- **on the eye:**  
Strong caustic effect.  
Strong irritant with the danger of severe eye injury.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Harmful  
Corrosive  
Irritant  
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

111-76-2	2-butoxyethanol	3
102-71-6	Triethanolamine	3

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

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· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.


### 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.  
Must not reach bodies of water or drainage ditch undiluted or unneutralized.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Dispose of content and/or container in accordance with local, regional, national and/or international regulations.
- **Uncleaned packagings:**
- **Recommendation:**  
Dispose of content and/or container in accordance with local, regional, national and/or international regulations
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

### 14 Transport information

- **UN-Number**
- **DOT, IMDG, IATA** UN1760
- **UN proper shipping name**
- **DOT** Corrosive liquids, n.o.s. (Potassium hydroxide)
- **IMDG, IATA** CORROSIVE LIQUID, N.O.S. (POTASSIUM HYDROXIDE)
- **Transport hazard class(es)**
- **DOT**
- 
- **Class** 8 Corrosive substances


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· <b>Label</b>	8
· <b>IMDG, IATA</b>	
	
· <b>Class</b>	8 Corrosive substances
· <b>Label</b>	8
· <b>Packing group</b>	
· <b>DOT, IMDG, IATA</b>	II
· <b>Environmental hazards:</b>	
· <b>Marine pollutant:</b>	No
· <b>Special precautions for user</b>	Warning: Corrosive substances
· <b>Danger code (Kemler):</b>	80
· <b>EMS Number:</b>	F-A,S-B
· <b>Segregation groups</b>	Alkalis
· <b>Stowage Category</b>	B
· <b>Stowage Code</b>	SW2 Clear of living quarters.
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	
Not applicable.	
· <b>Transport/Additional information:</b>	
· <b>DOT</b>	
· <b>Quantity limitations</b>	On passenger aircraft/rail: 1 L On cargo aircraft only: 30 L
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	1L
· <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>UN "Model Regulation":</b>	UN 1760 CORROSIVE LIQUID, N.O.S. (POTASSIUM HYDROXIDE), 8, II

### 15 Regulatory information

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

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

112-34-5 2-(2-butoxyethoxy)ethanol

111-76-2 2-butoxyethanol

· **TSCA (Toxic Substances Control Act):**

All components have the value ACTIVE.

· **Hazardous Air Pollutants**

None of the ingredients is listed.

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· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **New Jersey Special Hazardous Substance List:**

1310-58-3	potassium hydroxide	CO, R1
1310-73-2	sodium hydroxide	CO, R1
107-98-2	1-methoxy-2-propanol	F3
111-76-2	2-butoxyethanol	CA, F2

· **Pennsylvania Right-to-Know List:**

97-99-4	tetrahydro-2-furylmethanol	
616-45-5	2-pyrrolidone	
1310-58-3	potassium hydroxide	
1310-73-2	sodium hydroxide	
107-98-2	1-methoxy-2-propanol	
111-76-2	2-butoxyethanol	
102-71-6	Triethanolamine	

· **Pennsylvania Special Hazardous Substance List:**

1310-58-3	potassium hydroxide	E
1310-73-2	sodium hydroxide	E

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

111-76-2	2-butoxyethanol	NL
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· **TLV (Threshold Limit Value established by ACGIH)**

111-76-2	2-butoxyethanol	A3
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· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS05 GHS07

· **Signal word** Danger

· **Hazard-determining components of labeling:**

N-cyclohexyl-2-pyrrolidone  
2-pyrrolidone  
potassium hydroxide

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sodium hydroxide

· **Hazard statements**

H227 Combustible liquid.

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

· **Precautionary statements**

P210 Keep away from flames and hot surfaces. – No smoking.

P260 Do not breathe dusts or mists.

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves / eye protection / face protection.

P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.

P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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.

P321 Specific treatment (see on this label).

P337+P313 If eye irritation persists: Get medical advice/attention.

P363 Wash contaminated clothing before reuse.

P370+P378 In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.

P403+P235 Store in a well-ventilated place. Keep cool.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

California AQMD rule 1171 compliant when used as a dehazer for the removal of cured inks / stains

· **Department issuing SDS:** Environment protection department.

· **Contact:** Mr. Collins

· **Date of preparation / last revision** 07/08/2019 / -

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

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)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

BEI: Biological Exposure Limit

Flam. Liq. 4: Flammable liquids – Category 4

Acute Tox. 4: Acute toxicity – Category 4

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**Safety Data Sheet**  
**acc. to OSHA HCS**

Printing date 07/08/2019

Reviewed on 05/19/2015

**Trade name: LSR/30**

*Skin Corr. 1A: Skin corrosion/irritation – Category 1A*  
*Eye Dam. 1: Serious eye damage/eye irritation – Category 1*

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US