Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name: LiCl Solution
Product No: B2051

Contains Lithium Chloride Solution

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

Recommended use: This product is for research and development only
Uses advised against: No information available

1.3. Details of the supplier of the safety data sheet

Supplier Address:
New England BioLabs
240 County Road
Ipswich, MA 01938
USA

Company Phone Number: 978-927-5054
800-632-5227 (toll free)

Telefax: 978-921-1350

For further information, please contact:
E-mail address: info@neb.com

1.4. Emergency telephone number

Emergency telephone:
978-927-5054
800-632-5227 (toll free)
9:00am - 5:00pm Monday-Friday EST

Emergency telephone - §45 - (EC)1272/2008
Europe: 112

Specification No: No information available
Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

<table>
<thead>
<tr>
<th>Regulation (EC) No 1272/2008</th>
<th>Category 4 - (H302)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity - Oral</td>
<td></td>
</tr>
</tbody>
</table>

2.2. Label elements

Product identifier
Contains Lithium Chloride Solution

Signal word
Warning

Hazard statements
H302 - Harmful if swallowed

2.3. Other hazards

Other hazards
May be harmful in contact with skin

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2 Mixtures

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

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

General advice
If symptoms persist, call a physician. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing.

Eye contact
Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.

Skin contact
Consult a physician if necessary. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Inhalation
Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.
Ingestion
Rinse mouth. Drink plenty of water. If symptoms persist, call a physician. Do NOT induce vomiting.

Self-protection of the first aider
Use personal protective equipment as required.

4.2. Most important symptoms and effects, both acute and delayed
Irritation, Redness, Drowsiness, Dizziness

4.3. Indication of any immediate medical attention and special treatment needed
Note to physicians
Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES

5.1. Extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media
CAUTION: Use of water spray when fighting fire may be inefficient.

5.2. Special hazards arising from the substance or mixture
No information available

5.3. Advice for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions
Ensure adequate ventilation, especially in confined areas.

For emergency responders
Use personal protection recommended in Section 8.

6.2. Environmental precautions
Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment
Prevent further leakage or spillage if safe to do so.

Methods for cleaning up
Cover liquid spill with sand, earth or other non-combustible absorbent material. Pick up and transfer to properly labeled containers.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling
Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Product name  LiCl Solution  Page 3 / 9  Product No  B2051

Specification No  No information available
Storage temperature
Refer to www.neb.com for specific information.

Storage Conditions
Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children.

Incompatible materials
None known based on information supplied.

7.3. Specific end use(s)

Risk management methods [RMM]
The information required is contained in this Safety Data Sheet.

---

**Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

8.1. Control parameters

Exposure Limits
This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL)
No information available

Predicted No Effect Concentration (PNEC)
No information available

8.2. Exposure controls

Engineering controls
Showers. Eyewash stations.

Individual protection measures, such as personal protective equipment

Eye/face protection
Tight sealing safety goggles.

Skin and body protection
Wear suitable protective clothing and gloves.

Respiratory protection
Use in well ventilated areas.

General hygiene considerations
Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls
Do not allow into any sewer, on the ground or into any body of water.

---

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>Liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Mild</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No information available</td>
</tr>
</tbody>
</table>

---

Product name: LiCl Solution

Specification No: No information available
Section 10: STABILITY AND REACTIVITY

10.1. Reactivity
No data available.

10.2. Chemical stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
Can react briskly with oxidizers - danger of explosion.

10.4. Conditions to avoid

10.5. Incompatible materials
Strong oxidizing agents.

10.6. Hazardous decomposition products
Thermal decomposition can lead to release of irritating and toxic gases and vapors. Carbon monoxide. Carbon dioxide (CO2).

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity

Product information

- Inhalation
  Avoid breathing vapors or mists
  May cause irritation of respiratory tract

Product name  LiCl Solution  Page 5 / 9  Product No  B2051

Specification No  No information available
Eye contact
Redness
May cause slight irritation

Skin contact
Prolonged contact may cause redness and irritation
Repeated exposure may cause skin dryness or cracking

Ingestion
May cause drowsiness or dizziness
Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea
Symptoms include burning sensation, coughing, wheezing, shortness of breath, headache, nausea, and vomiting

Unknown acute toxicity
31.8 % of the mixture consists of ingredient(s) of unknown toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 1,654.00 mg/kg
ATEmix (dermal) 4,679.00 mg/kg

Skin corrosion/irritation Mild
Serious eye damage/eye irritation Mild
Sensitization Not applicable
Germ cell mutagenicity Not applicable
Carcinogenicity No information available
Reproductive toxicity No information available
Developmental toxicity No information available
Teratogenicity No information available
STOT - single exposure No information available
STOT - repeated exposure No information available
Neurological effects No information available
Target organ effects Kidneys, Respiratory system, Eyes, Skin.
Other adverse effects No information available
Symptoms No information available
Aspiration hazard No information available

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity
31.8 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

12.2. Persistence and degradability
No information available

12.3. Bioaccumulative potential
No information available

12.4. Mobility in soil
No information available

12.5. Results of PBT and vPvB assessment
No information available
12.6. Other adverse effects

Other adverse effects
No information available

Endocrine disruptor information
No information available

Ozone
No information available

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Relevant Information
Keep out of drains, sewers, ditches and waterways.

Waste from Residues/Unused Products
Disposal should be in accordance with applicable regional, national and local laws and regulations. Send to a licensed recycler, reclaimer or incinerator.

Contaminated packaging
Empty containers must be tripled rinsed prior to disposal.

Other information
Waste codes should be assigned by the user based on the application for which the product was used.

Section 14: TRANSPORT INFORMATION

IMDG
14.1 UN/ID No Not regulated
14.2 Proper shipping name Not regulated
14.3 Hazard class Not regulated
14.4 Packing group Not regulated
14.5 Marine pollutant Not applicable
14.6 Special Provisions None
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information available

RID
14.1 UN/ID No Not regulated
14.2 Proper shipping name Not regulated
14.3 Hazard class Not regulated
14.4 Packing group Not regulated
14.5 Environmental hazard Not applicable
14.6 Special Provisions None

ADR
14.1 UN/ID No Not regulated
14.2 Proper shipping name Not regulated
14.3 Hazard class Not regulated
14.4 Packing group Not regulated
14.5 Environmental hazard Not applicable
14.6 Special Provisions None
Section 15: REGULATORY INFORMATION

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

National Regulations

Occupational Illnesses (R-463-3, France)

European Union
Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

International Inventories
All of the components in the product are on the following Inventory lists TSCA (United States), Canada (DSL/NDSL), Europe (EINECS/ELINCS), Australia (AICS), South Korea (KECL), China (IECSC), Philippines (PICCS).

<table>
<thead>
<tr>
<th>Inventory</th>
<th>Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA</td>
<td>Complies</td>
</tr>
<tr>
<td>EINECS</td>
<td>Complies</td>
</tr>
<tr>
<td>ELINCS</td>
<td>-</td>
</tr>
<tr>
<td>DSL</td>
<td>Complies</td>
</tr>
<tr>
<td>NDSL</td>
<td>Complies</td>
</tr>
<tr>
<td>PICCS</td>
<td>Complies</td>
</tr>
<tr>
<td>ENCS</td>
<td>-</td>
</tr>
<tr>
<td>IECSC</td>
<td>Complies</td>
</tr>
<tr>
<td>AICS</td>
<td>Complies</td>
</tr>
<tr>
<td>KECL</td>
<td>Complies</td>
</tr>
</tbody>
</table>

Legend
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
PICCS - Philippines Inventory of Chemicals and Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
AICS - Australian Inventory of Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances

15.2. Chemical safety assessment
No information available

Section 16: OTHER INFORMATION

Product name LiCl Solution
Page 8 / 9
Product No B2051

Specification No No information available
Key or legend to abbreviations and acronyms used in the safety data sheet

Prepared by EH&S Manager
978-927-5054
Prepared by New England BioLabs
Issue date No data available
Revision note SDS is valid 3 years from revision date. Contact info@neb.com for latest revision.

This safety data sheet complies with the requirements of: Regulation (EC) No. 1907/2006

Disclaimer
IMPORTANT: The information in this SDS is provided in good faith based on our knowledge as of the issue date (or subsequent revision date, if any), and is to be used only as a guide. This SDS does not constitute a guarantee (express or implied) of any kind and we make no warranties or merchantability or fitness for a particular purpose. This information relates only to the designated product as shipped and may not be valid if the product is used in combination with any other materials or is not used in accordance with our instructions. It is the responsibility of the buyer/user to ensure that its activities comply with all applicable governmental requirements. Since conditions of use of the product are not under the control of New England Biolabs, it is the duty of the buyer/user to determine the necessary conditions for the safe use of the product. New England Biolabs will not be liable for any damages resulting from handling or contact with the product.

End of Safety Data Sheet