# Sodium Hydroxide, 50% w/w

**Safety Data Sheet**

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 10/16/2013  Version: 1.0

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

### 1.1. Product identifier

<table>
<thead>
<tr>
<th>Product form</th>
<th>Mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product name</td>
<td>Sodium Hydroxide, 50% w/w</td>
</tr>
<tr>
<td>CAS No</td>
<td>1310-73-2</td>
</tr>
<tr>
<td>Product code</td>
<td>LC24150</td>
</tr>
<tr>
<td>Formula</td>
<td>NaOH</td>
</tr>
<tr>
<td>Synonyms</td>
<td>caustic soda 50% W/W / soda lye, 50%, aqueous solution / white caustic, 50%, aqueous solution</td>
</tr>
<tr>
<td>BIG no</td>
<td>21703</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Use of the substance/mixture</th>
<th>Chemical intermediate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Industrial use</td>
</tr>
</tbody>
</table>

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

LabChem Inc
Jackson's Pointe Commerce Park Building 1000, 1010 Jackson's Pointe Court
Zelienople, PA 15063 - USA
T 412-826-5230 - F 724-473-0647
info@labchem.com - www.labchem.com

### 1.4. Emergency telephone number

<table>
<thead>
<tr>
<th>Emergency number</th>
<th>CHEMTREC: 1-800-424-9300 or 011-703-527-3887</th>
</tr>
</thead>
</table>

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

**GHS-US classification**

<table>
<thead>
<tr>
<th>Skin Corr.</th>
<th>H314</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Dam.</td>
<td>H318</td>
</tr>
<tr>
<td>Aquatic Acute</td>
<td>H402</td>
</tr>
</tbody>
</table>

### 2.2. Label elements

**GHS-US labelling**

- **Hazard pictograms (GHS-US)**
  - GHS05

- **Signal word (GHS-US)**
  - Danger

- **Hazard statements (GHS-US)**
  - H314 - Causes severe skin burns and eye damage
  - H402 - Harmful to aquatic life

- **Precautionary statements (GHS-US)**
  - P260 - Do not breathe mist, vapours, spray
  - P264 - Wash exposed skin thoroughly after handling
  - P273 - Avoid release to the environment
  - P280 - Wear protective gloves, protective clothing, eye protection, face protection
  - P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
  - P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
  - P304+P340 - IF INHALED: remove victim to fresh air and keep at rest in a position 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
  - P310 - Immediately call a POISON CENTER or doctor/physician
  - P363 - Wash contaminated clothing before reuse
  - P405 - Store locked up
  - P501 - Dispose of contents/container to comply with local, state and federal regulations

### 2.3. Other hazards

No additional information available

### 2.4. Unknown acute toxicity (GHS-US)

No data available
Sodium Hydroxide, 50% w/w
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 3: Composition/information on ingredients

3.1. Substance
Not applicable
Full text of H-phrases: see section 16

3.2. Mixture

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Hydroxide</td>
<td>(CAS No) 1310-73-2</td>
<td>50</td>
<td>Acute Tox. 4 (Dermal), H312 Skin Corr. 1A, H314 Eye Dam. 1, H318 Aquatic Acute 3, H402</td>
</tr>
<tr>
<td>Water</td>
<td>(CAS No) 7732-18-5</td>
<td>50</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

SECTION 4: First aid measures

4.1. Description of first aid measures


First-aid measures after inhalation: Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service. Remove to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

First-aid measures after skin contact: Wash immediately with lots of water (15 minutes)/shower. Do not apply (chemical) neutralizing agents. Remove clothing while washing. Do not remove clothing if it sticks to the skin. Cover wounds with sterile bandage. Consult a doctor/medical service. If burned surface > 10%: take victim to hospital. Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER or doctor/physician.

First-aid measures after eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.


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

Symptoms/injuries: Causes severe skin burns and eye damage.
Symptoms/injuries after skin contact: Caustic burns/corrosion of the skin. Slow-healing wounds.
Symptoms/injuries after eye contact: Corrosion of the eye tissue. Permanent eye damage. Causes serious eye damage.
Chronic symptoms: ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Dry skin. Skin rash/inflammation. Possible inflammation of the respiratory tract.

4.3. Indication of any immediate medical attention and special treatment needed
No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media


Unsuitable extinguishing media: No unsuitable extinguishing media known.

5.2. Special hazards arising from the substance or mixture

Fire hazard: DIRECT FIRE HAZARD. Non combustible. INDIRECT FIRE HAZARD. Reactions involving a fire hazard: see "Reactivity Hazard".
Explosion hazard: INDIRECT EXPLOSION HAZARD. Reactions with explosion hazards: see "Reactivity Hazard".
5.3. Advice for firefighters

Precautionary measures fire
Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.

Firefighting instructions
Cool tanks/drum with water spray/remove them into safety. Dilute toxic gases with water spray. Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it.

Protection during firefighting
Heat/fire exposure: compressed air/oxygen apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment

Emergency procedures

6.1.2. For emergency responders

Protective equipment
Equip cleanup crew with proper protection.

Emergency procedures
Ventilate area.

6.2. Environmental precautions

Prevent soil and water pollution. Prevent spreading in sewers. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment

Methods for cleaning up
Take up liquid spill into absorbent material, e.g.: dry sand/earth or powdered limestone. Scoop absorbed substance into closing containers. See "Material-handling" for suitable container materials. Carefully collect the spill/leftovers. Small quantities of liquid spill: neutralize with acid solution. Wash away neutralized product with plentiful water. Damaged/cool tanks must be emptied. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling
Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Handle and open the container with care. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Keep away from naked flames/heat. Observe very strict hygiene - avoid contact. Keep container tightly closed. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.

Hygiene measures
Wash exposed skin thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures
Comply with applicable regulations.

Storage conditions
Keep only in the original container in a cool, well ventilated place away from incompatible materials. Keep container closed when not in use.

Incompatible products
Strong bases. Strong acids.

Incompatible materials
Sources of ignition. Direct sunlight.

Storage temperature
> 15 °C

Heat and ignition sources
KEEP SUBSTANCE AWAY FROM: heat sources.

Prohibitions on mixed storage
KEEP SUBSTANCE AWAY FROM: combustible materials. (strong) acids. metals.

Storage area
Store in a dry area. Keep container in a well-ventilated place. Keep locked up. Protect against frost. Provide for a tub to collect spills. Unauthorized persons are not admitted. Meet the legal requirements.

Special rules on packaging
SPECIAL REQUIREMENTS: hermetical. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.

Packaging materials
SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Sodium Hydroxide, 50% w/w (1310-73-2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA ACGIH</td>
</tr>
<tr>
<td>USA OSHA</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sodium Hydroxide (1310-73-2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA ACGIH</td>
</tr>
<tr>
<td>USA OSHA</td>
</tr>
</tbody>
</table>

8.2. Exposure controls

Appropriate engineering controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Provide adequate general and local exhaust ventilation.

Personal protective equipment: Avoid all unnecessary exposure.


Hand protection: Wear protective gloves.

Eye protection: Chemical goggles or face shield. Face shield.

Skin and body protection: Corrosion-proof clothing.

Respiratory protection: Wear gas mask with filter type B if conc. in air > exposure limit. Wear appropriate mask.

Other information: Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Liquid

Appearance: Liquid.

Molecular mass: 40.00 g/mol

Colour: Colourless.

Odour: Odourless.

Odour threshold: No data available

pH: 14 (50 %)

pH solution: 50 %

Relative evaporation rate (butylacetate=1): No data available

Melting point: 12 °C

Freezing point: No data available

Boiling point: 143 °C

Flash point: Not applicable

Self-ignition temperature: Not applicable

Decomposition temperature: No data available

Flammability (solid, gas): No data available

Vapour pressure: 1.2 hPa

Relative vapour density at 20 °C: No data available

Relative density: 1.5

Density: 1525 kg/m³


Log Pow: -3.88 (Estimated value)

Log Kow: No data available

Viscosity, kinematic: No data available

Viscosity, dynamic: 0.04 Pa.s (30 °C)

Explosive properties: Not applicable.

Oxidising properties: None.

Explosive limits: No data available
9.2. Other information

Minimum ignition energy : Not applicable
VOC content : Not applicable
Other properties : Clear. Hygroscopic. Slightly volatile. Substance has basic reaction.

SECTION 10: Stability and reactivity

10.1. Reactivity

10.2. Chemical stability

10.3. Possibility of hazardous reactions
Not established.

10.4. Conditions to avoid
Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials
Strong acids. Metals.

10.6. Hazardous decomposition products
Sodium oxide. Thermal decomposition generates: Corrosive vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Sodium Hydroxide (1310-73-2)
LD50 dermal rabbit 1350 mg/kg (Rabbit; Literature, Rabbit; Literature)

Water (7732-18-5)
LD50 oral rat ≥ 90000 mg/kg

Skin corrosion/irritation : Causes severe skin burns and eye damage. pH: 14 (50 %)
Serious eye damage/irritation : Causes serious eye damage. pH: 14 (50 %)
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
Specific target organ toxicity (single exposure) : Not classified
Specific target organ toxicity (repeated exposure) : Not classified
Aspiration hazard : Not classified
Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met
Symptoms/injuries after skin contact : Caustic burns/corrosion of the skin. Slow-healing wounds.
Symptoms/injuries after eye contact : Corrosion of the eye tissue. Permanent eye damage. Causes serious eye damage.
Chronic symptoms : ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Dry skin. Skin rash/inflammation. Possible inflammation of the respiratory tract.
**SECTION 12: Ecological information**

### 12.1. Toxicity

| Ecology - general | Classification concerning the environment: not applicable. |

#### Sodium Hydroxide, 50% w/w (1310-73-2)

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fishes 1</td>
<td>45.4 mg/l (96 h; Salmo gairdneri (Oncorhynchus mykiss))</td>
</tr>
<tr>
<td>LC50 other aquatic organisms 1</td>
<td>100 mg/l (48 h; Daphnia magna; PURE SUBSTANCE)</td>
</tr>
<tr>
<td>LC50 fish 2</td>
<td>189 mg/l (48 h; Leuciscus idus)</td>
</tr>
<tr>
<td>TLM fish 1</td>
<td>125 ppm (96 h; Gambusia affinis; PURE SUBSTANCE)</td>
</tr>
<tr>
<td>TLM fish 2</td>
<td>99 mg/l (48 h; Lepomis macrochirus; PURE SUBSTANCE)</td>
</tr>
<tr>
<td>Threshold limit other aquatic organisms 1</td>
<td>100 mg/l (48 h; Daphnia magna; PURE SUBSTANCE)</td>
</tr>
</tbody>
</table>

#### Sodium Hydroxide (1310-73-2)

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fishes 1</td>
<td>45.4 mg/l (96 h; Salmo gairdneri (Oncorhynchus mykiss); SOLUTION &gt;=50%)</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
<td>40.4 mg/l (48 h; Ceriodaphnia sp.; NOMINAL CONCENTRATION)</td>
</tr>
<tr>
<td>LC50 fish 2</td>
<td>189 mg/l (48 h; Leuciscus idus)</td>
</tr>
<tr>
<td>TLM fish 1</td>
<td>99 mg/l (48 h; Lepomis macrochirus)</td>
</tr>
<tr>
<td>TLM fish 2</td>
<td>125 ppm (96 h; Gambusia affinis)</td>
</tr>
</tbody>
</table>

### 12.2. Persistence and degradability

<table>
<thead>
<tr>
<th>Sodium Hydroxide, 50% w/w (1310-73-2)</th>
<th>Persistence and degradability</th>
<th>Biodegradability: not applicable. No (test)data on mobility of the components of the mixture available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Hydroxide (1310-73-2)</td>
<td>Persistence and degradability</td>
<td>Biodegradability: not applicable. No (test)data on mobility of the components of the mixture available.</td>
</tr>
<tr>
<td>Biochemical oxygen demand (BOD)</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>Chemical oxygen demand (COD)</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>ThOD</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>BOD (% of ThOD)</td>
<td>Not applicable</td>
<td></td>
</tr>
</tbody>
</table>

### 12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>Sodium Hydroxide, 50% w/w (1310-73-2)</th>
<th>Log Pow</th>
<th>-3.88 (Estimated value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Hydroxide (1310-73-2)</td>
<td>Bioaccumulative potential</td>
<td>Bioaccumulation: not applicable.</td>
</tr>
</tbody>
</table>

### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

Other information: Avoid release to the environment.

**SECTION 13: Disposal considerations**

### 13.1. Waste treatment methods

Waste disposal recommendations: Remove waste in accordance with local and/or national regulations. Remove for physico-chemical/biological treatment. Do not discharge into surface water.

Additional information: LWCA (the Netherlands): KGA category 05. Hazardous waste according to Directive 2008/98/EC.

Ecology - waste materials: Avoid release to the environment.

**SECTION 14: Transport information**

In accordance with DOT

### 14.1. UN number

<table>
<thead>
<tr>
<th>UN-No.(DOT)</th>
<th>1824</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT NA no.</td>
<td>UN1824</td>
</tr>
</tbody>
</table>
## 14.2 UN proper shipping name

<table>
<thead>
<tr>
<th>DOT Proper Shipping Name</th>
<th>Sodium hydroxide solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department of Transportation (DOT) Hazard Classes</td>
<td>8 - Class 8 - Corrosive material 49 CFR 173.136</td>
</tr>
<tr>
<td>DOT Hazard labels (DOT)</td>
<td>8 - Corrosive substances</td>
</tr>
</tbody>
</table>

### DOT Special Provisions (49 CFR 172.102)

- **Packing group (DOT):** II - Medium Danger
- **DOT Special Provisions:**
  - B2 - MC 300, MC 301, MC 302, MC 303, MC 305, and MC 306 and DOT 406 cargo tanks are not authorized.
  - IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.
  - N34 - Aluminum construction materials are not authorized for any part of a packaging which is normally in contact with the hazardous material.
  - T7 - 4 178.274(d)(2) Normal............. 178.275(d)(3)
  - TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = 95 / (1 + a (tr - tf)) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: a = (d15 - d50) / 35*d50 Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.

### DOT Packaging Exceptions (49 CFR 173.xxx)
- DOT Packaging Exceptions (49 CFR 173.xxx): 154
- DOT Packaging Bulk (49 CFR 173.xxx): 242

## 14.3 Additional information

### Other information
- No supplementary information available.

### Overland transport

- **Packing group (ADR):** II
- **Class (ADR):** 8 - Corrosive substances
- **Hazard identification number (Kemler No.):** 80
- **Classification code (ADR):** C5
- **Danger labels (ADR):** 8 - Corrosive substances

### Orange plates

### Tunnel restriction code
- E

## Transport by sea

### DOT Vessel Stowage Location
- A - The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel.

### DOT Vessel Stowage Other
- 52 - Stow “separated from” acids

### EmS-No. (1)
- F-A

### EmS-No. (2)
- S-B

## Air transport

### DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)
- 1 L

### DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)
- 30 L

10/16/2013 EN (English) 7/9
**Sodium Hydroxide, 50% w/w**

**Safety Data Sheet**

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

**Sodium Hydroxide, 50% w/w (1310-73-2)**

- Listed on the United States TSCA (Toxic Substances Control Act) inventory
- RQ (Reportable quantity, section 304 of EPA’s List of Lists): 1000 lb
- SARA Section 311/312 Hazard Classes: Immediate (acute) health hazard

**Sodium Hydroxide (1310-73-2)**

- Listed on the United States TSCA (Toxic Substances Control Act) inventory
- RQ (Reportable quantity, section 304 of EPA’s List of Lists): 1000 lb
- SARA Section 311/312 Hazard Classes: Immediate (acute) health hazard

#### 15.2. International regulations

**CANADA**

- Sodium Hydroxide, 50% w/w (1310-73-2)
  - Listed on the Canadian DSL (Domestic Substances List) inventory.
  - WHMIS Classification: Class E - Corrosive Material

**EU-Regulations**

No additional information available

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

**Classification according to Directive 67/548/EEC or 1999/45/EC**

C; R35

Full text of R-phrases: see section 16

#### 15.2.2. National regulations

**Sodium Hydroxide, 50% w/w (1310-73-2)**

- Listed on the Canadian Ingredient Disclosure List

**Sodium Hydroxide (1310-73-2)**

- Listed on the Canadian Ingredient Disclosure List

#### 15.3. US State regulations

**Sodium Hydroxide (1310-73-2)**

### SECTION 16: Other information

- Indication of changes: Revision - See ".*.
- Other information: None.

Full text of H-phrases: see section 16:

- Acute Tox. 4 (Dermal) - Acute toxicity (dermal), Category 4
- Aquatic Acute 3 - Hazardous to the aquatic environment — AcuteHazard, Category 3
- Eye Dam. 1 - Serious eye damage/eye irritation, Category 1
- Skin Corr. 1A - Skin corrosion/irritation, Category 1A
- Skin Corr. 1B - Skin corrosion/irritation, Category 1B
- H312 - Harmful in contact with skin
- H314 - Causes severe skin burns and eye damage
- H318 - Causes serious eye damage
- H402 - Harmful to aquatic life
### Sodium Hydroxide, 50% w/w

**Safety Data Sheet**

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<table>
<thead>
<tr>
<th>NFPA health hazard</th>
<th>3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.</th>
</tr>
</thead>
<tbody>
<tr>
<td>NFPA fire hazard</td>
<td>0 - Materials that will not burn.</td>
</tr>
<tr>
<td>NFPA reactivity</td>
<td>1 - Normally stable, but can become unstable at elevated temperatures and pressures or may react with water with some release of energy, but not violently.</td>
</tr>
</tbody>
</table>

**HMIS III Rating**

<table>
<thead>
<tr>
<th>Health</th>
<th>3 - Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability</td>
<td>0 - Minimal Hazard</td>
</tr>
<tr>
<td>Physical</td>
<td>1 - Slight Hazard</td>
</tr>
<tr>
<td>Personal Protection</td>
<td>H</td>
</tr>
</tbody>
</table>

**SDS US (GHS HazCom 2012)**

Information in this SDS is from available published sources and is believed to be accurate. No warranty, express or implied, is made and LabChem Inc assumes no liability resulting from the use of this SDS. The user must determine suitability of this information for his application.