MSDS for SODIUM HYDRIDE

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS Name: Sodium Hydride, 60% Dispersion in Mineral Oil, Toluene Soluble Bags
Company Identification:

Alkali Metals Ltd.,
Plot B-5, Block III, IDA Uppal,
Hyderabad –500 039. INDIA
Tel :- 0091 40 2756 3002 / 2756 2932
Fax :- 0091 40 2756 2634 / 2720 1454
Email :- alkalimetals@alkalimetals.com

SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Chemical Name</th>
<th>%</th>
<th>EINECS #</th>
</tr>
</thead>
<tbody>
<tr>
<td>7646-69-7</td>
<td>Sodium Hydride</td>
<td>60%</td>
<td>231-587-3</td>
</tr>
</tbody>
</table>

Hazard Symbols: F
Risk Phrases: 15

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
Appearance: light gray. Caution! Water-Reactive. May cause severe respiratory and digestive tract irritation with possible burns. May cause severe eye and skin irritation with possible burns. Dangerous when wet.
Target Organs: None.
Potential Health Effects
Eye: May cause eye irritation and possible burns.
Skin: May cause severe skin irritation with possible burns, especially if skin is wet or moist.
Ingestion: May cause severe gastrointestinal tract irritation with nausea, vomiting and possible burns.
Inhalation: May cause severe irritation of the respiratory tract with possible burns.
Chronic: None

SECTION 4 - FIRST AID MEASURES

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Get medical aid.
Skin: Get medical aid. Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.
Ingestion: Never give anything by mouth to an unconscious person. Get medical aid. Do NOT induce vomiting. Allow the victim to rinse his mouth and then to drink 2-4 cupfuls of water, and seek medical advice. Wash mouth out with water.
Inhalation: Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
Notes to Physician: Treat symptomatically.
SECTION 5 - FIRE FIGHTING MEASURES

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Water Reactive. Material will react with water and may release a flammable and/or toxic gas. Containers may explode in the heat of a fire. May re-ignite after fire is extinguished.

Extinguishing Media: Do NOT get water inside containers. Cool containers with flooding quantities of water until well after fire is out. DO NOT USE WATER OR FOAM. For small fires use dry chemical, soda ash, lime or sand. For large fires use dry sand, dry chemical, soda ash or lime or withdraw from area and let fire burn.

Autoignition Temperature: Not available.
Flash Point: Not available.
NFPA Rating: Not published.
Explosion Limits, Lower: N/A, Upper: N/A

SECTION 6 - ACCIDENTAL RELEASE MEASURES

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Absorb spill with inert material, (e.g., dry sand or earth), then place into a chemical waste container. Provide ventilation. Do not expose spill to water. Do not get water inside containers.

SECTION 7 - HANDLING and STORAGE

Handling: Avoid breathing dust, vapor, mist, or gas. Avoid contact with skin and eyes. Do not allow contact with water. Use only in a chemical fume hood.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls: Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA – Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Hydride</td>
<td>None listed</td>
<td>None listed</td>
<td>None listed</td>
</tr>
<tr>
<td>Mineral Oil</td>
<td>None listed</td>
<td>None listed</td>
<td>None listed</td>
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</tbody>
</table>

OSHA Vacated PELs: SODIUM HYDRIDE: No OSHA Vacated PELs are listed for this chemical.
MINERAL OIL: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA’s eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin: Wear appropriate protective gloves to prevent skin exposure. Clothing: Wear appropriate protective clothing to prevent skin exposure.
Respirators: Follow the OSHA respirator regulations found in 29CFR1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.
SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State : Solid/Liquid Mixture
Appearance : light gray
Odour : Practically odorless
pH : Not available.
Vapor Pressure : Not available.
Vapor Density : Not available.
Evaporation Rate : Not available.
Viscosity : Not available.
Boiling Point : Not available.
Freezing/Melting Point : 800 deg C
Decomposition Temperature : > 225 deg C
Solubility : Reacts.
Specific Gravity/Density : 1.2000g/cm³
Molecular Formula : HNa
Molecular Weight : 23.9968

SECTION 10 - STABILITY AND REACTIVITY

Chemical Stability: Not available.
Conditions to Avoid: Incompatible materials, exposure to air, contact with water, temperatures above 220°C.
Hazardous Polymerization: Has not been reported.

SECTION 11 - TOXICOLOGICAL INFORMATION

RTECS#: CAS# 7646-69-7: WB3910000
CAS# 8042-47-5: PY8047000
LD50/LC50: Not available. Not available.
Carcinogenicity: SODIUM HYDRIDE - Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA. MINERAL OIL - Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology : No data available.
Teratogenicity : No data available.
Reproductive Effects : No data available.
Neurotoxicity : No data available.
Mutagenicity : No data available.
Other Studies : No data available.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity : Not available.
Environmental Fate : Not available.
Physical/Chemical : Not available.
Other : Not available.
SECTION 13 - DISPOSAL CONSIDERATIONS

Dispose of in a manner consistent with federal, state, and local regulations. RCRA D-Series Maximum Concentration of Contaminants: None listed. RCRA D-Series Chronic Toxicity Reference Levels: None listed.

RCRA F-Series: None listed.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

Not listed as a material banned from land disposal according to RCRA.

SECTION 14 - TRANSPORT INFORMATION

US DOT

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SECTION 15 - REGULATORY INFORMATION

US FEDERAL
TSCA
CAS# 7646-69-7 is listed on the TSCA inventory.
CAS# 8042-47-5 is listed on the TSCA inventory.

Health & Safety Reporting List: None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules: None of the chemicals in this product are under a Chemical Test Rule.
Section 12b
None of the chemicals are listed under TSCA Section 12b.
TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA. SARA

Section 302 (RQ): None of the chemicals in this material have an RQ.
Section 302 (TPQ): None of the chemicals in this product have a TPQ.
Section 313: No chemicals are reportable under Section 313.

Clean Air Act:
This material does not contain any hazardous air pollutants. This
material does not contain any Class 1 Ozone depletors. This
material does not contain any Class 2 Ozone depletors. Clean

Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of
the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals
in this product are listed as Toxic Pollutants under the CWA. OSHA: None of the chemicals in this
product are considered highly hazardous by OSHA. STATE
SODIUM HYDRIDE can be found on the following state right to know lists: New Jersey, Florida,
Pennsylvania, Massachusetts. MINERAL OIL is not present on state lists from CA, PA, MN, MA, FL,
or NJ.

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations
European Labeling in Accordance with EC Directives

Hazard Symbols: F

Risk Phrases:
R 15 Contact with water liberates highly flammable gases. Safety

Phrases:
S 24/25 Avoid contact with skin and eyes. S 7/8
Keep container tightly closed and dry.
S 43A In case of fire, use dry chemical (never use water). WGK
(Water Danger/Protection)
CAS# 7646-69-7: 1
CAS# 8042-47-5: No information available.
Canada
CAS# 7646-69-7 is listed on Canada's DSL/NDSL List.
CAS# 8042-47-5 is listed on Canada's DSL/NDSL List. This
product does not have a WHMIS classification.
CAS# 7646-69-7 is not listed on Canada's Ingredient Disclosure List. CAS#
8042-47-5 is not listed on Canada's Ingredient Disclosure List. Exposure
Limits
SECTION 16 - ADDITIONAL INFORMATION
MSDS Creation Date: 15/05/2000

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall Alkali Metals be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Alkali Metals has been advised of the possibility of such damages.