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

1.1. Product identifier

Product form : Mixture
Product name : Sodium TolylTriazole 50%

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

Use of the substance/mixture : Inhibitor.

1.3. Details of the supplier of the safety data sheet

KOST USA, Inc.
1000 Tennessee Ave.
Cincinnati, 45229 - USA
T 1-800-661-9391 - F 1-513-492-5555
sales@kostusa.com - www.kostusa.com

1.4. Emergency telephone number

Emergency number : 1-800-424-9300
CHEMTREC (24 HOURS)

**SECTION 2: Hazards identification**

2.1. Classification of the substance or mixture

GHS-US classification

Acute Tox. 4 (Oral) H302
Skin Corr. 1B H314

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :

![GHS05](image)

Signal word (GHS-US) : Danger
Hazard statements (GHS-US)

H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage

Precautionary statements (GHS-US) :

P260 - Do not breathe mist, spray, vapours
P264 - Wash hands, forearms and face thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P280 - Wear eye protection, protective clothing, protective gloves, face shield
P301+P312 - If swallowed: Call a 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
P310 - Immediately call a doctor
P321 - Specific treatment (see First aid measures on this label)
P330 - Rinse mouth
P363 - Wash contaminated clothing before reuse
P405 - Store locked up
P401 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable
Sodium TolylTriazole 50%
Safety Data Sheet

SECTION 3: Composition/information on ingredients

3.1. Substance
Not applicable

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 tolyltriazole</td>
<td>(CAS No) 64665-57-2</td>
<td>45–55</td>
<td>Acute Tox. 4 (Oral), H302</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skin Corr. 1B, H314</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Dam. 1, H318</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aquatic Chronic 2, H411</td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td>(CAS No) 1310-73-2</td>
<td>&lt; 0.5</td>
<td>Skin Corr. 1A, H314</td>
</tr>
</tbody>
</table>

Full text of H-phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general:
Never give anything by mouth to an unconscious person. Call a poison center or a doctor if you feel unwell.

First-aid measures after inhalation:
Remove victim 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:
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.

First-aid measures after ingestion:
Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

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

Symptoms/injuries after inhalation:
May cause respiratory irritation.

Symptoms/injuries after skin contact:
Causes severe skin burns and eye damage.

Symptoms/injuries after eye contact:
Causes serious eye damage.

Symptoms/injuries after ingestion:
Swallowing a small quantity of this material will result in serious health hazard. Harmful if swallowed. May cause irritation of the mucous membranes.

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: Carbon dioxide. AFFF. Dry chemical. Water spray.

Unsuitable extinguishing media: Class D.

5.2. Special hazards arising from the substance or mixture

Fire hazard:
Burning produces irritating, toxic and noxious fumes.

Explosion hazard:
Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

Reactivity:
Thermal decomposition generates: Corrosive vapours.

5.3. Advice for firefighters

Firefighting instructions:
Exercise caution when fighting any chemical fire. Do not allow run-off from fire fighting to enter drains or water courses.

Protection during firefighting:
Do not enter fire area without proper protective equipment, including respiratory protection. Wear a self contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures:
Avoid all eye and skin contact and do not breathe vapour and mist. Always approach spills or fires from upwind/uphill.

6.1.1. For non-emergency personnel

Protective equipment:
Chemical goggles or safety glasses. Clothing impervious to chemical penetration. Wear suitable gloves resistant to chemical penetration.

Emergency procedures:
Evacuate unnecessary personnel.
6.1.2. For emergency responders
Protective equipment: Chemical goggles or safety glasses. Wear protective rubber clothing with splash guard. Wear suitable gloves.
Emergency procedures: Ventilate area. Stop leak if safe to do so.

6.2. Environmental precautions
Do not discharge into drains or the environment. Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up
For containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Methods for cleaning up: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Take up in non-combustible absorbent material and shove into container for disposal.

6.4. Reference to other sections
Section 13: disposal information. Section 7: safe handling. Section 8: personal protective equipment.

SECTION 7: Handling and storage
7.1. Precautions for safe handling
Precautions for safe handling: Do not breathe mist, spray, vapours.
Hygiene measures: Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Remove contaminated clothes. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities
Technical measures: Comply with applicable regulations.
Storage conditions: Keep container tightly closed.
Prohibitions on mixed storage: Incompatible materials.
Storage area: Store in a dry place. Store in a well-ventilated place.
Special rules on packaging: Use corrosionproof equipment.

7.3. Specific end use(s)
Inhibitor.

SECTION 8: Exposure controls/personal protection
8.1. Control parameters

<table>
<thead>
<tr>
<th></th>
<th>Sodium hydroxide (1310-73-2)</th>
<th>sodium tolyltriazole (64665-57-2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>ACGIH Ceiling (mg/m³)</td>
<td>OSHA PEL (TWA) (mg/m³)</td>
</tr>
<tr>
<td></td>
<td>2 mg/m³</td>
<td>2 mg/m³</td>
</tr>
</tbody>
</table>

8.2. Exposure controls
Appropriate engineering controls: Avoid creating mist or spray. Avoid splashing. Ensure good ventilation of the work station. Emergency safety showers should be available in the immediate vicinity of any potential exposure. Eyewash stations.
Personal protective equipment: Avoid all unnecessary exposure.
Hand protection: Wear suitable gloves resistant to chemical penetration.
Eye protection: Chemical goggles or safety glasses. Face shield.
Skin and body protection: Wear suitable protective clothing. Impervious clothing.
Respiratory protection: In case of inadequate ventilation wear respiratory protection. Use an approved respirator equipped with oil/mist cartridges.
Environmental exposure controls: Prevent contaminated water run-off.
Consumer exposure controls: Keep out of reach of children.
Other information: Do not eat, drink or smoke when using this product.
SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Clear liquid.</td>
</tr>
<tr>
<td>Colour</td>
<td>Yellow amber</td>
</tr>
<tr>
<td>Odour</td>
<td>Faint characteristic</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>13 - 14</td>
</tr>
<tr>
<td>pH solution</td>
<td>10 (11.5 - 12) %</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting/freezing point</td>
<td>-8 °C</td>
</tr>
<tr>
<td>Boiling point</td>
<td>100 - 108 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.186 - 1.196</td>
</tr>
<tr>
<td>Solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>No data available</td>
</tr>
</tbody>
</table>

9.2. Other information

VOC content : 50 %

SECTION 10: Stability and reactivity

10.1. Reactivity

Thermal decomposition generates: Corrosive vapours.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Keep away from incompatible materials. Avoid splashing.

10.5. Incompatible materials

Strong acids. Strong oxidizing agents.

10.6. Hazardous decomposition products


SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity: Oral: Harmful if swallowed.

<table>
<thead>
<tr>
<th>Compound</th>
<th>ATE US (oral)</th>
<th>LD50 oral rat</th>
<th>LD50 dermal rabbit</th>
<th>ATE US (oral)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium TolylTriazole 50%</td>
<td>1441.176 mg/kg bodyweight</td>
<td>735 mg/kg bodyweight</td>
<td>&gt; 2000 mg/kg bodyweight</td>
<td>735,000 mg/kg bodyweight</td>
</tr>
<tr>
<td>Sodium tollytriazole (64665-57-2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Skin corrosion/irritation: Causes severe skin burns and eye damage.

Serious eye damage/irritation: Not classified

Respiratory or skin sensitisation: Not classified
Sodium TolylTriazole 50%
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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
Symptoms/injuries after inhalation : May cause respiratory irritation.
Symptoms/injuries after skin contact : Causes severe skin burns and eye damage.
Symptoms/injuries after eye contact : Causes serious eye damage.
Symptoms/injuries after ingestion : Swallowing a small quantity of this material will result in serious health hazard. Harmful if swallowed. May cause irritation of the mucous membranes.
Likely routes of exposure : Skin and eye contact; Inhalation

SECTION 12: Ecological information

12.1. Toxicity
Ecology - water : Toxic to aquatic life with long lasting effects.
sodium tolyltriazole (64665-57-2)
LC50 fish 1 55 mg/l
EC50 Daphnia 1 15.8 mg/l

12.2. Persistence and degradability
Sodium TolylTriazole 50%
Persistence and degradability : May cause long-term adverse effects in the environment.
sodium tolyltriazole (64665-57-2)
Biodegradation 4 % O2 consumption; 28 days

12.3. Bioaccumulative potential
sodium tolyltriazole (64665-57-2)
Log Pow 1.083

12.4. Mobility in soil
No additional information available

12.5. Other adverse effects
No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Waste treatment methods : Do not dispose in household garbage.
Sewage disposal recommendations : Do not dispose of waste into sewer.
Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT
Transport document description : UN1719 Caustic alkali liquids, n.o.s. (Sodium Tolyltriazole), 8, II
UN-No.(DOT) : UN1719
Proper Shipping Name (DOT) : Caustic alkali liquids, n.o.s.
Sodium Tolyltriazole
Department of Transportation (DOT) Hazard Classes : 8 - Class 8 - Corrosive material 49 CFR 173.136
Hazard labels (DOT) : 8 - Corrosive
Sodium TolylTriazole 50%
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

DOT Symbols : G - Identifies PSN requiring a technical name
Packing group (DOT) : II - Medium Danger

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.
T11 - 6 178.274(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: (image) 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: (image)
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.
TP27 - A portable tank having a minimum test pressure of 4 bar (400 kPa) may be used provided the calculated test pressure is 4 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.

DOT Packaging Exceptions (49 CFR 173.xxx) : 154
DOT Packaging Non Bulk (49 CFR 173.xxx) : 202
DOT Packaging Bulk (49 CFR 173.xxx) : 242
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 1 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 30 L
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 : 29 - Stow “away from” ammonium compounds, 52 - Stow “separated from” acids

Additional information
Other information : No supplementary information available.

ADR
Transport document description : UN 1719 CAUSTIC ALKALI LIQUID, N.O.S. (Sodium Tolyltriazole), 8, II, (E)
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 (ADR) : E
LQ : 11
Excepted quantities (ADR) : E2

Transport by sea
UN-No. (IMDG) : 1719
Proper Shipping Name (IMDG) : CAUSTIC ALKALI LIQUID, N.O.S.
Class (IMDG) : 8 - Corrosive substances
Packing group (IMDG) : II - substances presenting medium danger
Sodium TolylTriazole 50%

Safety Data Sheet

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Air transport

UN-No.(IATA) : 1719
Proper Shipping Name (IATA) : Caustic alkali liquid, n.o.s.
Class (IATA) : 8 - Corrosives
Packing group (IATA) : II - Medium Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

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

sodium tolyltriazole (64665-57-2)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

Sodium hydroxide (1310-73-2)
Listed on the Canadian DSL (Domestic Substances List) inventory.

sodium tolyltriazole (64665-57-2)
Listed on the Canadian DSL (Domestic Substances List) inventory.

EU-Regulations

Sodium hydroxide (1310-73-2)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

sodium tolyltriazole (64665-57-2)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

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

Acute Tox. 4 (Oral) H302
Skin Corr. 1B H314
Eye Dam. 1 H318
Aquatic Chronic 2 H411

Full text of H-phrases: see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Xn; R22
C; R34
N; R51/53

15.2.2. National regulations

Sodium hydroxide (1310-73-2)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Chinese Catalog of Hazardous Chemicals.
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on KECl (Korean Existing Chemicals Inventory)
Listed on Taiwan National Chemical Inventory
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on NZIoC (New Zealand Inventory of Chemicals)

sodium tolyltriazole (64665-57-2)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on KECl (Korean Existing Chemicals Inventory)
Listed on Taiwan National Chemical Inventory
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on the AICS (Australian Inventory of Chemical Substances)

15.3. US State regulations
Sodium TolylTriazole 50%
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 16: Other information

Indication of changes: Original Document.

Data sources:
ACGIH (American Conference of Government Industrial Hygienists).

Abbreviations and acronyms:
ATE: Acute Toxicity Estimate.
CAS (Chemical Abstracts Service) number.
CLP: Classification, Labelling, Packaging.
EC50: Environmental Concentration associated with a response by 50% of the test population.
GHS: Globally Harmonized System (of Classification and Labeling of Chemicals).
LD50: Lethal Dose for 50% of the test population.
OSHA: Occupational Safety & Health Administration.
STEL: Short Term Exposure Limits.
TSCA: Toxic Substances Control Act.
TWA: Time Weight Average.

Other information: None.

Full text of H-phrases:

<table>
<thead>
<tr>
<th>Acute tox. 4 (oral)</th>
<th>Acute toxicity (oral), Category 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquatic Chronic 2</td>
<td>Hazardous to the aquatic environment — Chronic Hazard, Category 2</td>
</tr>
<tr>
<td>Eye Dam. 1</td>
<td>Serious eye damage/eye irritation, Category 1</td>
</tr>
<tr>
<td>Skin Corr. 1A</td>
<td>Skin corrosion/irritation, Category 1A</td>
</tr>
<tr>
<td>Skin Corr. 1B</td>
<td>Skin corrosion/irritation, Category 1B</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage</td>
</tr>
<tr>
<td>H411</td>
<td>Toxic to aquatic life with long lasting effects</td>
</tr>
</tbody>
</table>

NFPA health hazard: 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.

NFPA fire hazard: 1 - Must be preheated before ignition can occur.

NFPA reactivity: 0 - Normally stable, even under fire exposure conditions, and not reactive with water.

SDS Prepared by: The Redstone Group, LLC
6397 Emerald Pkwy.
Suite 200
Dublin, OH USA 43016
T 614-923-7472
www.redstonegrp.com

Redstone SDS US GHS for KOST

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