



To Our Customers:

The attached Safety Data Sheet (SDS) was prepared by the vendor of the product you purchased through one of our divisions. We used the manufacturer's electronic document directly or scanned a paper copy and generated a file for our automated SDS delivery system.

All statements, technical information, and recommendations contained therein are solely that of the manufacturer of the product. We at Zep Inc. did not verify the accuracy and completeness of the statements and do not warrant or guarantee the information. We provide vendor SDSs to assist our customers in their compliance efforts. The attached document is in compliance with one of the respective country regulatory requirements noted below:

The OSHA Hazard Communication Standard (in the United States)
The Hazardous Products Regulations (in Canada)

We made every effort to deliver all of the information prepared by the manufacturer. We cannot anticipate all conditions under which this information will be used. If you have any questions about the statements on the SDS, please contact the company shown on the document.

Zep Inc. assumes no liability or responsibility for loss or damage resulting from the improper use or handling of this product, from incompatible product combinations, or from the failure to follow instructions, warnings, and advisories in the manufacturer's product label and Safety Data Sheet.

Sincerely,

Product Stewardship Team
Zep Inc.

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product name Bleach Titrant (0.0564M Sodium Thiosulfate)

Other means of identification

Product Code(s) ZEP-4500

UN-No 1824

Recommended use of the chemical and restrictions on use

Recommended Use Use as a laboratory reagent. Laboratory chemicals. Industrial (not for food or food contact use).

Details of the supplier of the safety data sheet

Manufacturer Address

LaMotte Company, Inc.
802 Washington Avenue
P.O. Box 329
Chestertown, MD 21620 USA
T 410-778-3100
F 410-778-9748

Emergency telephone number

24 Hour Emergency Number (CHEM-TEL):USA, Canada, Puerto Rico 1-800-255-3924 Outside North American Continent (Call collect) 813-248-0585

2. HAZARDS IDENTIFICATION

Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1

EMERGENCY OVERVIEW

DANGER

Hazard statements

Causes severe skin burns and eye damage.



Appearance Clear, colorless

Physical state liquid

Odor None

Precautionary Statements - Prevention

Do not taste or swallow. Do not breathe dust/fume/gas/mist/vapors/spray. Wash face, hands and any exposed skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

Wash contaminated clothing before reuse

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

IF SWALLOWED, Rinse mouth, Do NOT induce vomiting

Precautionary Statements - Storage

Store locked up.

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No	Weight-%
2-Furancarboxylic acid	88-14-2	0.1
Sodium hydroxide	1310-73-2	<1
Thiosulfate, sodium, pentahydrate	10102-17-7	1.5
Water	7732-18-5	to 100%

4. FIRST AID MEASURES**First Aid Measures****General advice**

Do not get in eyes, on skin, or on clothing.

Eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.

Skin contact

Wash skin with soap and water. If skin irritation persists, call a physician.

Inhalation

Remove to fresh air. Not expected.

Ingestion

Drink plenty of water. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

Self-protection of the first aider

Use personal protection recommended in Section 8. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

5. FIRE-FIGHTING MEASURES**Suitable extinguishing media**

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

Protective equipment and precautions for firefighters

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

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures****Personal precautions**

Avoid contact with eyes, skin and clothing. Use personal protection recommended in Section 8.

Environmental precautions

See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

Methods for cleaning up After cleaning, flush away traces with water.

7. HANDLING AND STORAGE**Precautions for safe handling**

Handling Handle in accordance with good industrial hygiene and safety practice. Do not taste or swallow. Do not eat, drink or smoke when using this product. Avoid contact with skin, eyes or clothing.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Store at room temperature. Keep out of the reach of children. Separate from acids. Keep away from oxidizing agents. Keep away from heat.

Incompatible Products Acids. Strong oxidizing agents. Nitric acid.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Exposure guidelines**

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
2-Furancarboxylic acid 88-14-2	-	-	Not Established
Sodium hydroxide 1310-73-2	Ceiling: 2 mg/m ³	TWA: 2 mg/m ³	IDLH: 10 mg/m ³ Ceiling: 2 mg/m ³
Thiosulfate, sodium, pentahydrate 10102-17-7	-	-	Not Established
Water 7732-18-5	-	-	Not Established

Appropriate engineering controls

Engineering Measures Ensure that eyewash stations and safety showers are close to the workstation location.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Wear safety glasses with side shields (or goggles). Goggles.

Skin and body protection Wear protective gloves/clothing.

Respiratory protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

Physical state liquid
Appearance Clear, colorless
Odor None

Property Values Remarks • Method

pH	
Melting point / freezing point	No information available
Boiling point / boiling range	100 °C / 212 °F
Flash point	No information available
Evaporation rate	
Flammability (solid, gas)	No information available
Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor pressure	No information available
Vapor density	No information available
Specific gravity	No information available
Water solubility	No information available
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available
Dynamic viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Stability	Stable under recommended storage conditions.
Hazardous polymerization	Hazardous polymerization does not occur.
Conditions to avoid	Incompatible Products.
Incompatible materials	Acids. Strong oxidizing agents. Nitric acid.
Hazardous decomposition products	Hazardous decomposition products. Sulfur oxides (SOx). Sodium oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
2-Furancarboxylic acid 88-14-2	Not Established	Not Established	Not Established
Sodium hydroxide 1310-73-2	Not Established	= 1350 mg/kg (Rabbit)	Not Established
Thiosulfate, sodium, pentahydrate 10102-17-7	> 5000 mg/kg (Rat)	Not Established	Not Established
Water 7732-18-5	> 90 mL/kg (Rat)	Not Established	Not Established

Information on toxicological effects

Chemical name	ACGIH	IARC	NTP	OSHA
2-Furancarboxylic acid 88-14-2	-	Not Established	Not Established	-
Sodium hydroxide 1310-73-2	-	Not Established	Not Established	-
Thiosulfate, sodium, pentahydrate	-	Not Established	Not Established	-

10102-17-7				
Water 7732-18-5	-	Not Established	Not Established	-

Dermal LD50 No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Unknown Aquatic Toxicity 0.1 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical name	Toxicity to Algae	Toxicity to Fish	Daphnia Magna (Water Flea)
2-Furancarboxylic acid 88-14-2	Not Established	Not Established	Not Established
Sodium hydroxide 1310-73-2	Not Established	45.4: 96 h Oncorhynchus mykiss mg/L LC50 static	Not Established
Thiosulfate, sodium, pentahydrate 10102-17-7	Not Established	24000: 96 h Gambusia affinis mg/L LC50 static	Not Established
Water 7732-18-5	Not Established	Not Established	Not Established

Persistence and degradability

No information available.

Bioaccumulation/Accumulation

No information available.

Chemical name	Log Pow
2-Furancarboxylic acid 88-14-2	Not Established
Sodium hydroxide 1310-73-2	Not Established
Thiosulfate, sodium, pentahydrate 10102-17-7	Not Established
Water 7732-18-5	Not Established

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose according to federal, state, and local regulations. If permitted, neutralize reagent to pH 7 with acid and rinse to drain with excess water. Dispose of contents/containers in accordance with local regulations.

Contaminated packaging

Do not reuse empty containers.

Chemical name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
2-Furancarboxylic acid 88-14-2	Not Established	-	Not Established	Not Established
Sodium hydroxide 1310-73-2	Not Established	-	Not Established	Not Established
Thiosulfate, sodium, pentahydrate 10102-17-7	Not Established	-	Not Established	Not Established
Water 7732-18-5	Not Established	-	Not Established	Not Established

Chemical name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
2-Furancarboxylic acid 88-14-2	Not Established	Not Established	Not Established	Not Established
Sodium hydroxide 1310-73-2	Not Established	Not Established	Not Established	Not Established
Thiosulfate, sodium, pentahydrate 10102-17-7	Not Established	Not Established	Not Established	Not Established

Water 7732-18-5	Not Established	Not Established	Not Established	Not Established
--------------------	-----------------	-----------------	-----------------	-----------------

Chemical name	California Hazardous Waste Status
2-Furancarboxylic acid 88-14-2	-
Sodium hydroxide 1310-73-2	-
Thiosulfate, sodium, pentahydrate 10102-17-7	-
Water 7732-18-5	-

14. TRANSPORT INFORMATION

DOT

Proper shipping name SODIUM HYDROXIDE SOLUTION
UN-No 1824
Hazard Class 8
Packing group III

IATA

Proper shipping name SODIUM HYDROXIDE SOLUTION
UN-No 1824
Hazard Class 8
Packing group III

IMDG/IMO

Proper shipping name SODIUM HYDROXIDE SOLUTION
UN-No 1824
Hazard Class 8
Packing group III

15. REGULATORY INFORMATION

International Inventories

TSCA Complies
DSL/NDL Complies
EINECS/ELINCS Complies
ENCS Complies
IECSC Complies
KECL Does not comply
PICCS Complies
AICS Complies

Legend:

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

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	SARA 313 - Threshold Values %
2-Furancarboxylic acid 88-14-2	Not Established
Sodium hydroxide 1310-73-2	Not Established
Thiosulfate, sodium, pentahydrate 10102-17-7	Not Established
Water 7732-18-5	Not Established

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
2-Furancarboxylic acid 88-14-2	Not Established	Not Established	Not Established	Not Established
Sodium hydroxide 1310-73-2	Not Established	Not Established	Not Established	Not Established
Thiosulfate, sodium, pentahydrate 10102-17-7	Not Established	Not Established	Not Established	Not Established
Water 7732-18-5	Not Established	Not Established	Not Established	Not Established

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	RQ
2-Furancarboxylic acid 88-14-2	-	Not Established	-
Sodium hydroxide 1310-73-2	1000 lb	Not Established	RQ 1000 lb final RQ RQ 454 kg final RQ
Thiosulfate, sodium, pentahydrate 10102-17-7	-	Not Established	-
Water 7732-18-5	-	Not Established	-

US State Regulations**California Proposition 65**

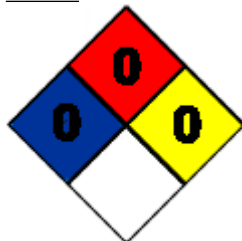
This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
2-Furancarboxylic acid 88-14-2	Not Established	Not Established	Not Established
Sodium hydroxide 1310-73-2	X	X	X
Thiosulfate, sodium, pentahydrate 10102-17-7	Not Established	Not Established	Not Established
Water	Not Established	Not Established	X

7732-18-5			
16. OTHER INFORMATION			

<u>NFPA</u>	Health hazard 0	Flammability 0	Instability 0	Physical and Chemical Hazards N/A
<u>HMIS</u>	Health hazard 1	Flammability 0	Stability 0	



Health Hazard	1
Fire Hazard	0
Reactivity	0

Prepared by Regulatory Affairs Department
Issuing Date May-06-2015
Revision Date May-07-2015
Reason for revision New US GHS format
Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Material Safety Data Sheet