



## STOLLER ENTERPRISES, INC.

4001 W Sam Houston Parkway N, Suite 100 Houston, Texas 77043-1226 U.S.A.

Toll-Free: 1 (800) 539-5283 Tel.: 1 (713) 461-1493 Fax: 1 (713) 461-4467 stoller@stollerusa.com

### MATERIAL SAFETY DATA SHEET

(Revised 22/Aug/2011)

#### SECTION I – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

##### THAT® FLOWABLE SULFUR

Shipping code L-THATS-xxxx

Chemical Name & Synonyms: Liquid Sulfur 52%

Formula: S<sub>8</sub> (Rhombic or monoclinic)

Trade name & Synonyms: : Flowable Sulfur, Liquid Sulfur, Micronized Sulfur

Company Name: STOLLER ENTERPRISES, INC.

Address: 4001 W Sam Houston Parkway N, Suite 100, Houston, Texas 77043-1226 U.S.A.

Phone Number for Information: 1 (800) 539-5283 or 1 (713) 461-1493

Emergency Phone Number, CHEMTREC for Stoller Enterprises:

In the US and Canada call toll-free 1 (800) 424-9300

From other countries call collect: +1 (703) 527-3887

#### SECTION II – HAZARD IDENTIFICATION

##### NFPA HAZARD RATINGS

HEALTH HAZARD 1 FIRE HAZARD 0 REACTIVITY 0

Based on the National Fire Protection Association rating system

(0 = Minimal; 1 = Slight; 2 = Moderate; 3 = High; 4 = Severe)

##### SARA/TITLE III HAZARD CATEGORIES (See Section XV)

Immediate (Acute) Health: NO Delayed (Chronic) Health: YES

Reactive Hazard: NO Sudden Release of Pressure: YES Fire Hazard: NO

#### EXPOSURE LIMITS

OSHA Permissible Exposure Limit (PEL): Not Established (N/E)

ACGIH Threshold Limit Value (TLV): Not Established (N/E)

#### EFFECTS OF OVEREXPOSURE

##### 1.- ACUTE:

**EYES:** Contact with product may cause mild to severe irritation, blurred vision, may cause lacrimation, and photophobia. Effects may be delayed.

**SKIN:** May cause discomfort, skin irritation or rash or burning, unless treated promptly, no adverse effects.

**INHALATION:** Prolonged exposure to vapors may cause sore throat and irritation of respiratory tract.

**INGESTION:** May cause, malaise, nausea. Large doses may cause gastrointestinal pains or cramps.

##### 2.- CHRONIC: Not known. Expected toxicity hazard: slight to moderate.

#### SECTION III – COMPOSITION / INGREDIENTS INFORMATION

ACTIVE INGREDIENTS	CAS #	Approx. %	ACGIH TLV
SULFUR	7704-34-9	52 %	Not established

**SECTION IV – FIRST-AID MEASURES****EMERGENCY FIRST AID PROCEDURES**

Victims of severe exposure to chemicals must be taken to health providing centers for medical attention. If necessary, also rescuers must be assisted. Always bring with victim a copy of label and MSDS of product to health professional.

**EYES:** Holding eyelids apart, immediately flush eyes with plenty of water for at least 15 minutes. Seek medical attention if severe irritation occurs.

**SKIN:** Immediately wash affected area with abundant soap and water. Remove contaminated clothing, taking care not to impregnate eyes. Seek medical attention if irritations occur. Do not attempt to neutralize with chemicals.

**INHALATION:** Move patient to fresh air. Supplemental oxygen may be indicated. Assure mucous does not obstruct airways. Seek medical attention if victim's breathing is difficult.

**INGESTION:** Immediately contact a physician or poison control center for treatment advice. Induce vomiting. Victim should drink milk, egg whites or large quantities of water. Never give anything by mouth to someone who is unconscious, having convulsions or unable to swallow.

**ADDITIONAL INFORMATION:** Note to Physician: Symptomatic treatment.

**SECTION V – FIRE AND EXPLOSION DATA**

**FLASH POINT:** >405°F      **FLAMMABLE LIMITS: LEL:** N/A      **UEL:** N/A

**EXTINGUISHER MEDIA:** Use all means adequate to fight surrounding fire, water, foam, CO<sub>2</sub>, dry chemicals.

**SPECIAL FIRE FIGHTING PROCEDURES:** None specific for this product. It is suggested that firefighters wear self-contained breathing apparatus and full protective equipment, such as chemical resistant clothing.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** None known.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Toxic fumes may be generated under fire conditions, Sulfur dioxide (SO<sub>2</sub>), Hydrogen sulfide (H<sub>2</sub>SO<sub>4</sub>).

**SECTION VI – ACCIDENTAL RELEASE MEASURES**

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED:** In case of a large spill, protect people by clearing and isolating the affected area. Such releases should be responded to by trained personnel using pre-planned procedures.

In the event of an incidental release, minimum Personal Protective Equipment must be worn: latex or rubber gloves and boots, goggles or full faceshield, and coveralls or long sleeved shirt and pants. It is necessary to contain spill into the smallest area possible by diking, scooping, etc., and recover liquid into an appropriate container for salvage or later usage. If product is clean, use it as intended following Revised label directions; should it get contaminated, salvage for proper disposal as waste. If liquid is absorbed onto dry carrier such as sand or other absorbent material, then it should be put in covered labeled containers and disposed of as a dry waste in accordance with Federal, State and Local hazardous waste disposal regulations.

**SECTION VII – HANDLING AND STORAGE**

All personnel who handle this material should be trained to work with it safely. Avoid breathing vapors or mists; wear appropriate protective equipment, use in a well-ventilated location. Empty containers may contain residual liquid or vapors therefore, should be handled same as with full containers. Do not rinse containers and reuse for other purposes.

Inspect all incoming containers before storage, to ensure all are properly labeled and not damaged. Store in a cool, dry place, away from direct sunlight, sources of intense heat or where freezing is possible. Store it away from food, feed, clothing materials and living quarters. Whenever possible, place chemicals on secondary containers or diked area. Keep containers tightly closed when not in use. Keep away from reach of children and pets.

**SECTION VIII – SPECIAL PROTECTION / CONTROL MEASURES**

**RESPIRATORY PROTECTION:** Wear a NIOSH / OSHA approved respirator if working conditions require doing so.

**VENTILATION:** General ventilation is usually adequate. Local exhaust should be used if needed for safe, comfortable working conditions in enclosed areas.

**SKIN AND EYE PROTECTION:** Safety glasses should be worn in any type of operation with chemicals. Impervious gloves, long sleeved shirt and long pants, as well as protective shoes should be worn as a good safety practice.

**OTHER CONTROL MEASURES:** An eye bath and washing facilities should be readily available. Remove all dirty or contaminated clothing and wash it before reusing.

**WORK/HYGIENIC PRACTICES:** As a general rule, do not eat, drink, smoke, nor chew gum or tobacco when handling chemicals. Wash thoroughly after handling this product.

**SECTION IX – PHYSICAL AND CHEMICAL CHARACTERISTICS**

<b>BOILING POINT:</b> 100 C (212°F)	<b>VAPOR PRESSURE (mm/Hg):</b> 1.06
<b>MELTING POINT:</b> N/A	<b>VAPOR DENSITY (air = 1):</b> Not known
<b>SPECIFIC GRAVITY:</b> 1.38	<b>REACTIVITY IN WATER:</b> N/E
<b>SOLUBILITY IN WATER:</b> Miscible but insoluble	<b>EVAPORATION RATE:</b> Similar to water
<b>APPEARANCE AND ODOR:</b> Yellow creamy liquid, slight rotten egg odor.	
<b>OTHER:</b>	

**SECTION X – PHYSICAL HAZARDS (REACTIVITY DATA)**

**STABILITY:** Stable: Yes Unstable:

**CONDITIONS TO AVOID:** High heat. 52% Sulfur, dry cake is combustible not flammable.

**INCOMPATIBILITY, MATERIALS TO AVOID:** Strong alkalis, oxidizing agents.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Sulfur dioxide (SO<sub>2</sub>), Hydrogen sulfide (H<sub>2</sub>SO<sub>4</sub>).

**HAZARDOUS POLYMERIZATION:** N/A **MAY OCCUR:** **WILL NOT OCCUR:** X

**SECTION XI – TOXICOLOGICAL INFORMATION****TOXICITY DATA**

**ORAL:** LD<sub>50</sub> (rats) = >5050 mg/kg

**DERMAL:** Skin Effects (rabbit): Slightly irritating.

**INHALATION:** @ 90% LC<sub>50</sub> (rats): >5.49 mg/lt air concentration

**EYE:** (human) 8 ppm – irritation, (rabbit) minimal irritation in non-washed eye.

**CARCINOGENICITY**

This product components are not listed as a carcinogenic by CPDB, IARC, NTP, OSHA, CAL/OSHA and ACGIH.

**MUTAGENICITY:** This product components are not reported to produce mutagenic effects in humans.

**EMBRYOTOXICITY:** This product components are not reported to produce embryotoxic effects in humans.

**TERATOGENICITY:** This product components are not reported to produce teratogenic effects in humans.

**REPRODUCTIVE TOXICITY:** This product components are not reported to produce reproductive toxicity effects in humans.

**SECTION XII – ENVIRONMENTAL EFFECTS DATA**

The available data on this material does not indicate any undue hazard to the environment under anticipated use and storage. All work practices must be aimed at preventing environmental contamination. Any waste due to spillage or leakage should be contained and disposed of accordingly, see above under Accidental Release Measures. Because of its nutritional nature, may cause eutrophication if discharged in bodies of water.

To aid our customers in complying with regulatory requirements, SARA Title III hazard categories for this product are indicated in Section II. If the word "YES" appears next to any category, this product may be reportable by you under the requirements of 40 CFR Part 370. Please consult those regulations for details.

**SECTION XIII – DISPOSAL CONSIDERATIONS**

**WASTE DISPOSAL METHODS:** Waste disposal must be done following all Federal, State and Local regulations. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local waste regulatory authority.

# SECTION XIV – TRANSPORTATION DATA

## DOT Proper Shipping Name and Hazard Class:

Non-Regulated (Trade name: THAT® FLOWABLE SULFUR)

## IATA Proper Shipping Name and Hazard Class:

Non-Regulated (Trade name: THAT® FLOWABLE SULFUR)

## IMO Proper Shipping Name and Hazard Class:

Non-Regulated (Trade name: THAT® FLOWABLE SULFUR)

**Reportable Quantity (RQ):** Not Applicable

**Placard:** Not Required

**Emergency Response Guide Number:** Not Applicable

# SECTION XV – REGULATORY INFORMATION

U.S. SARA: This product might be subject to the reporting requirements of Sections 302, 304 and 313 of Title III of the Superfund Amendments and Reauthorization Act:

**U.S. SARA 302 (40 CFR 355, Appendix A):** NO

**U.S. SARA 304 (40 CFR Table 302.4):** NO

**U.S. SARA 313 (40 CFR 372.65):** NO

**U.S. SARA THRESHOLD PLANNING QUANTITY:** NO

**U.S. CERCLA REPORTABLE QUANTITY (RQ):** NO

**U.S. CLEAN WATER ACT:** This material components are not listed as toxic pollutants nor as priority pollutants.

**U.S. TSCA INVENTORY STATUS:** The components of this material are listed on the TSCA Inventory.

**CANADIAN DSL INVENTORY:** The components of this material are listed on the DSL Inventory.

If this product contains components designated as CERCLA Reportable Quantity (RQ) Substance, Section 103 of CERCLA requires the "person in charge" of a facility or vessel, as soon as he or she has knowledge of a release of a hazardous substance in an amount equal to or greater than an RQ, to report the release immediately to the National Response Center in Washington, DC. The NRC number is 1-800-424-8802 or 1 (202) 267-2675.

# SECTION XVI – OTHER INFORMATION

Date of MSDS Revised Sept 1999

Date of MSDS Revised Feb 2003

Date of MSDS Revised Sept 2008

Date of MSDS Revised Feb 2011

Date of MSDS Revised Aug 22, 2011

Stoller Enterprises, Inc., believes the information contained in this Material Safety Data Sheet is accurate, based on the information supplied by reputable suppliers of our raw materials. However, Stoller Enterprises does not guarantee their accuracy or completeness. The information contained herein is furnished without warranty of any kind, whether expressed or implied, as to the safety of the goods, the merchantability of the goods, or the fitness of the goods for any particular purpose. Users should consider these data only as a supplement to other information gathered by them and must make independent determination of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers. Stoller Enterprises assumes no responsibility for results obtained or for incidental or consequential damages arising from the use of goods and data.