

SECRET

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DO A 041929
CONFIDENTIAL

MATERIAL SAFETY DATA SHEET
CFR 1910.1200 OSHA Hazard
Communication Rule Format

MINE SAFETY APPLIANCES COMPANY
P. O. Box 426
Pittsburgh, PA 15230
PHONE (412) 967-3000

NOTE: This product contains Stannic Chloride, a substance subject to the Pennsylvania Worker and Community Right-To-Know Act.

PRODUCT IDENTITY

LABEL IDENTITY - MSA P/N 5607 Ventilation Smoke Tube Assembly
MSA P/N 5645 Ventilation Smoke Tubes (pkg. of 12)

CHEMICAL NAME - Stannic Chloride Sorbed on Pumice

ADDITIONAL IDENTITIES - Smoke Tubes

FORMULA - SnCl_4 on Pumice

APPLICABLE CHEMICAL CONTENTS

	%	TLV
Stannic Chloride (CAS 7646-78-8)	50-60	2mg/m ³ *
Pumice (CAS 1332-09-8)	40-50	10mg/m ³

*As inorganic tin compounds

Each tube contains approximately 2 gms. SnCl_4

CAUTION: SnCl_4 reacts with moisture in air yielding tin oxides smoke, and hydrochloric acid. This mixture is irritating to the eyes and mucous membranes. Avoid contact with smoke puffs pumped from the tube.

Tube effluent contains:

HCl (CAS 7647-01-0)

Tin Oxides (no CAS number known)

SnCl_4 (CAS 7646-78-8)

TLV
7mg/m ³ Ceiling
2mg/m ³ (as inorganic Tin Compounds)
2mg/m ³ (as inorganic Tin Compounds)

ACGIH TLVs 1987-88

PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR - Gray to Black Granules, Acid Odor
BOILING POINT - SnCl_4 235° F
VAPOR PRESSURE - SnCl_4 10-20mm HG at Room Temp.
VAPOR DENSITY (AIR = 1) - >>1
SOLUBILITY IN WATER - SnCl_4 soluble decomposes

SPECIFIC GRAVITY ($\text{H}_2\text{O}=1$) - >1
PERCENT VOLATILE BY VOLUME - Approx. 50%

PHYSICAL HAZARD INFORMATION

PHYSICAL HAZARD - SnCl_4 is strongly acidic and reacts with water vapor yielding tin oxides smoke and corrosive hydrochloric acid mixture.

CONDITIONS OR MATERIALS TO AVOID - Avoid strong bases, alcohols, ethylene oxide, alkyl nitrates, and amines.

FLASH POINT - SnCl_4 is not flammable. LEL N/A UEL N/A

EXTINGUISHING MEDIA - As needed for surrounding fire.

SPECIAL FIRE FIGHTING PROCEDURES - Wear impervious covering and self-contained pressure demand breathing apparatus with full facepiece.

UNUSUAL FIRE AND EXPLOSION HAZARDS - Tubes may rupture and emit toxic fumes and dense smoke under fire conditions. Avoid contact with run-off water which may be acidified by leached tube contents.

HEALTH HAZARDS

HEALTH HAZARDS - Corrosive, Toxic, Irritant
 SnCl_4 : INH Rat LC50 2300mg/m³ 10 minutes
HCl: INH Human LCLo 1300ppm 30 minutes

SIGNS AND SYMPTOMS OF EXPOSURE - Eye, skin, and respiratory system irritation, coughing, shortness of breath, headache, nausea, vomiting. Direct contact with liquid SnCl_4 produces acid burns.

PRIMARY ROUTES OF ENTRY: Eyes, nose, mouth, skin

TARGET ORGANS: Eyes, mucous membranes, skin

N/A - Not Applicable

MEDICAL CONDITIONS GENERALLY RECOGNIZED AS BEING AGGRAVATED BY EXPOSURE - No information

EXPOSURE LIMITS - See page 1

CARCINOGENICITY DATA - Not listed in NIOSH RTECS.

EMERGENCY AND FIRST AID PROCEDURES -

Smoke puff generation is under manual control of the user by actuation of a squeeze bulb and overexposure is unlikely under intended conditions of use. First aid procedures follow should overexposure somehow occur.

Eyes: Remove victim from exposure. Flush eyes with water for 15 minutes holding eyes open and raising eyelids to flush underlid areas. SEE A PHYSICIAN IMMEDIATELY.

Inhalation: Remove from exposure. Give oxygen if breathing is difficult. Give artificial respiration if breathing has stopped. GET MEDICAL ATTENTION IMMEDIATELY.

Ingestion: If tube contents are somehow ingested, give 2 glasses of water to dilute chemical. Do not induce vomiting. GET MEDICAL ATTENTION IMMEDIATELY.

SAFE HANDLING AND USE

HYGIENIC PRACTICES - Wash hands after using product.

PROTECTIVE MEASURES DURING REPAIR AND MAINTENANCE OF CONTAMINATED EQUIPMENT - Not Applicable

PROCEDURES FOR SPILL OR LEAK CLEANUP -

If contents of a tube are released, leave area until smoke generation subsides. Avoid skin contact with spilled material and avoid breathing any smoke generated. Fill a bucket 3/4 full of water and add 1 ounce of sodium bicarbonate. Sweep up the tube and spilled contents and place in the bucket overnight to completely deactivate remaining chemical. Filter solids from water and dispose to trash. Neutralized water can be poured down drain.

WASTE DISPOSAL - Tape over ends of exhausted tubes and dispose in accordance with local, and federal regulations.

STORAGE - Store tubes in a cool dry location protected from crushing and impact forces.

CONTROL MEASURES

PERSONAL PROTECTIVE EQUIPMENT - Due to the limited amount of SnCl_4 per tube and the contr smoke release rate, use of personal protective equipment is not indicated under antici conditions of use. The user is cautioned to avoid breathing the tube emissions which irritant.

ENGINEERING CONTROLS - Not Applicable.

WORK PRACTICES: This product is for use in determination of direction and velocity of ventilation air currents. Avoid breathing emissions from tube.

DATE OF PREPARATION - January 1988

The information provided herein has been compiled from sources believed t be reliable. However, Mine Safety Appliances Company makes no warranty as to the accuracy, completeness or sufficiency of the information and in no event will Mine Safety Appliances Company be responsible for loss or damage of any nature whatsoever resulting from use of the information.



Curtin Matheson Scientific, Inc.
9999 VETERANS MEMORIAL
DOCK C
HOUSTON, TX 77038

FISONS

MATERIAL SAFETY DATA SHEET

MAIL TO: DOW U S A : LA

LOUISIANA HIGHWAY 1

BLDG: 6604

PLAQUEMINE, LA 70764

SECTION 1 - NAME AND PRODUCT

MANUFACTURER NAME AND ADDRESS

EM SCIENCE

A DIV OF EM INDUSTRIES

P.O. BOX 70

GIBBSTOWN NJ 08027

EMERGENCY PHONE 1-800-424-9300

CHEMICAL NUMBER: MSX0390-1

ITEM NUMBER: 0404017

VNDR CATLG NBR:

ENTRY DATE: 02-24-90

CHANGE DATE: 02-24-90

PD NUMBER: 000001469703

COMMON NAME (ON LABEL)

SODIUM BROMIDE

CHEMICAL FAMILY

INORGANIC SALT

TRADE NAME & SYNONYMS

SODIUM BROMIDE

CHEMICAL FORMULA

NABR

SECTION 2 - HAZARDOUS INGREDIENTS

HAZARDOUS COMPONENT	CAS	% (WT)	TLV	PEL
SODIUM BROMIDE	7647-15-6	100.00	.000 SEC.5	.000 SEC.5

PEL: Permissible Exposure Limit established by the Occupational Safety and Health Administration (OSHA).

TLV: Threshold Limit Value established by the American Conference of Governmental Industrial Hygienists, 1986-87.

OTHER INGREDIENT INFORMATION
N/A.

SECTION 3 - PHYSICAL DATA

BOILING POINT	VOLATILE BY VOLUME (%)	VAPOR PRESSURE
1390C	N/A	N/A 20CC
MELTING POINT	VAPOR DENSITY	SOLUBILITY IN WATER
755C	N/A	47
EVAPORATION RATE (= 1)	SPECIFIC GRAVITY	
N/A	3.21	

APPEARANCE AND ODOR
WHITE CRYSTALS OR

OTHER PHYSICAL DATA
MOLECULAR WEIGHT: 102.90

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SECTION 4 - FIRE AND EXPLOSION DATA

FLASH POINT

NONCOMBUSTIBLE

LOWER EXPLOSIVE LIMIT

N/A

UPPER EXPLOSIVE LIMIT

N/A

EXTINGUISHING MEDIA

EXTINGUISHING MEDIA..... ANY

SUITABLE FOR OTHER MATERIALS INVOLVED.

UNUSUAL FIRE AND EXPLOSION HAZARDS

FIRE & EXPL. HAZARDS..... -NONE.

SPECIAL FIRE FIGHTING PROCEDURES

FIRE FIGHTING PROC..... WEAR

SELF-CONTAINED BREATHING APPARATUS.

SECTION 5 - HEALTH HAZARD DATA

HEALTH HAZARDS (ACUTE & CHRONIC)

SEE SIGNS AND SYMPTOMS OF EXPOSURE.

PRIMARY ROUTES OF EXPOSURE

ROUTES OF ENTRY..... INHALATION, INGESTION OR SKIN CONTACT.

SIGNS AND SYMPTOMS OF EXPOSURE

SYMPTOMS OF EXPOSURE -MODERATELY

TOXIC LARGE OR REPEATED DOSES MAY

CAUSE NAUSEA, STUPOR, DEPRESSION, ATAXIA AFFECTS CENTRAL NERVOUS SYSTEM

PROLONGED SKIN CONTACT CAN CAUSE IRRITATION.

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SECTION 5 - HEALTH HAZARD DATA (CONTINUED)

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
MEDICAL COND. AGGRAVATED BY EXP: DATA NOT AVAILABLE.

CARCINOGENICITY

INDICATORS NOT GIVEN

NTP ☐ Yes ☐ NoIARC ☐ Yes ☐ NoOSHA ☐ Yes ☐ No

CARCINOGENICITY.....: SEE COMMENTS, SECTION X; IF NO INFORMATION
APPEARS, THE MATERIAL IS NOT LISTED AS A CANCER CAUSING AGENT.

EMERGENCY AND FIRST AID PROCEDURES

EMERGENCY FIRST AID.....: GET

MEDICAL ASSISTANCE FOR ALL CASES OF OVEREXPOSURE EYES: IMMEDIATELY FLUSH
THOROUGHLY WITH LARGE AMOUNTS OF WATER SKIN: WASH WITH SOAP AND WATER THOROUGHLY
INHALATION: REMOVE TO FRESH AIR •
INGESTION: IF CONSCIOUS, INDUCE VOMITING • GIVE
ARTIFICIAL RESPIRATION IF BREATHING HAS STOPPED.

THRESHOLD LIMITS / TOXICITY DATA

ACGIH TLV/OSHA PEL (TWA).....: & PEL:

NONE ESTABLISHED. TOXICITY DATA.....:

-ORL-RAT LD50: 3500 MG/KG.

SECTION 6 - REACTIVITY DATA

STABILITY Unstable ☐ Stable ☒

CONDITIONS TO AVOID

CONDITIONS TO AVOID: -NONE.

INCOMPATIBILITY (MATERIALS TO AVOID)

MATERIALS TO AVOID.....: () WATER (X) ACIDS () BASES (

() CORROSIVES () OXIDIZERS (X) OTHER: HEAVY METAL SALTS.

ALKALOIDAL SALTS, BROMINE TRIFLUORIDE.

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SECTION 6 - REACTIVITY DATA (CONTINUED)

HAZARDOUS DECOMPOSITION OR BYPRODUCTS
HAZARDOUS DECOMPOSITION... -BROMINE, HBR, NA2O

HAZARDOUS POLYMERIZATION May Occur ☐ Will Not Occur ☐
CONDITIONS TO AVOID
HAZARDOUS POLYMERIZATION: DATA NOT AVAILABLE.

SECTION 7 - SPILL, LEAK, AND DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
SPILL RESPONSE: -TAKE UP
AND CONTAINERIZE FOR PROPER DISPOSAL.

WASTE DISPOSAL METHOD
WASTE DISPOSAL: TO BE PERFORMED IN COMPLIANCE WITH ALL CURRENT LOCAL, STATE AND
FEDERAL REGULATIONS.

SECTION 8 - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION
VENTILATION, RESPIRATORY PROTECTION, PROTECTIVE CLOTHING, EYE PROTECTION: -MATERIAL
SHOULD BE HANDLED OR TRANSFERRED IN AN APPROVED FUME HOOD OR WITH ADEQUATE
VENTILATION PROTECTIVE GLOVES (NEOPRENE, PVC OR EQUIVALENT)
SHOULD BE WORN TO PREVENT SKIN CONTACT
SAFETY GLASSES WITH SIDE SHIELDS SHOULD BE WORN AT ALL TIMES

LOCAL VENTILATION

SEE SECTION 8 - RESPIRATORY PROTECTION

MECHANICAL VENTILATION

SEE SECTION 8 - RESPIRATORY PROTECTION

SPECIAL VENTILATION

SEE SECTION 8 - RESPIRATORY PROTECTION

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SECTION 8 - SPECIAL PROTECTION INFORMATION (CONTINUED)**OTHER VENTILATION**

SEE SECTION 8 - RESPIRATORY PROTECTION

PROTECTIVE GLOVES

SEE SECTION 8 - RESPIRATORY PROTECTION

EYE PROTECTION

SEE SECTION 8 - RESPIRATORY PROTECTION

OTHER PROTECTIVE CLOTHING OR EQUIPMENT

SEE SECTION 8 - RESPIRATORY PROTECTION.

SECTION 9 - SPECIAL PRECAUTIONS**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE**

HANDLING & STORAGE -KEEP

CONTAINER CLOSED STORE AT CONTROLLED ROOM

TEMPERATURE WASH THOROUGHLY AFTER HANDLING

DO NOT BREATHE DUST, DO NOT TAKE INTERNALLY

DO NOT GET IN EYES AVOID

PROLONGED OR REPEATED SKIN CONTACT DO NOT TAKE INTERNALLY.

WORK/HYGIENIC PRACTICES. WASH THOROUGHLY AFTER

HANDLING. DO NOT TAKE INTERNALLY. EYE WASH AND SAFETY EQUIPMENT SHOULD BE READILY AVAILABLE.

SECTION 10 - OTHER INFORMATION**MISCELLANEOUS INFO.**

PREPARATION DATE OCT 27, '87 INFORMATION PHONE NUMBER :

(609) 354-9200 HEALTH

..... 0 FLAMMABILITY 0 REACTIVITY : 0 SPECIAL HAZARDS: N/A

DOT SHIPPING NAME: N/A DOT

NUMBER N/A COMMENTS.....

-TESTS ON LABORATORY ANIMALS INDICATE MATERIAL MAY PRODUCE ADVERSE

REPRODUCTIVE EFFECTS REV.

12/86 N/A N/A = NOT AVAILABLE..

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EM SCIENCE

Ship To:103366

DOW CHEMICAL
PO BOX 150 BLDG 6601
PLAQUEMINE, LA 70764

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Manufacturer.....:

EM SCIENCE
A Division of EM Industries
P.O. Box 70
480 Democrat Rd.
Gibbstown, N.J. 08027

Preparation Date.: 01/24/92

Date MSDS Printed.: Apr 10, 1993

Information Phone Number.: 609-354-9200
Hours: Mon. to Fri. 8:30-5
Chemtrec Emergency Number: 800-424-9300
Hours: 24 hrs a day

Catalog Number(s):

SX0570

Chemical Name.....: Sodium Formate
Trade Name.....: Formic Acid Sodium Salt
Chemical Family...: Organic Salt
Formula.....: HCOONa

Molecular Weight.: 68.01

2. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS #	Appr %
Sodium Formate	141-53-7	100%

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Handling care generally in keeping with safe laboratory practices is recommended.

Appearance.....:

White crystalline powder

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POTENTIAL HEALTH EFFECTS (ACUTE AND CHRONIC)

Symptoms of Exposure:

No harmful effects indicated from available information.
Handling care generally in keeping with safe laboratory practices is recommended.

Medical Cond. Aggravated by Exposure:

Data not available.

Routes of Entry.....:

Inhalation, ingestion

Carcinogenicity.....:

The material is not listed (IARC, NTP, OSHA) as cancer causing agent.

| 4. FIRST AID MEASURES

Emergency First Aid:

GET MEDICAL ASSISTANCE FOR ALL CASES OF OVEREXPOSURE.

Skin: Wash thoroughly with soap and water.

Eyes: Immediately flush thoroughly with water for at least 15 minutes.

Inhalation: Remove to fresh air; give artificial respiration if breathing has stopped.

Ingestion: Get immediate medical attention.

| 5. FIRE FIGHTING MEASURES

Flash Point (F).....: N/A

Flammable Limits LEL (%): N/A

Flammable Limits UEL (%): N/A

Extinguishing Media.....:

Water, CO₂, Dry chemical, "Alcohol" foam

Fire Fighting Procedures.:

Wear self-contained breathing apparatus.

Fire & Explosion Hazards.:

Thermal decomposition produces toxic fumes.

6. ACCIDENTAL RELEASE MEASURES

Spill Response:

Evacuate the area of all unnecessary personnel.

Wear suitable protective equipment listed under Exposure /
Personal Protection.

Eliminate any ignition sources until the area is determined to be free from explosion or fire hazards.

Contain the release and eliminate its source, if this can be done without risk.

Take up and containerize for proper disposal as described under Disposal.

Comply with Federal, State, and local regulations on reporting releases. Refer to Regulatory Information for reportable quantity and other regulatory data.

7. HANDLING AND STORAGE

Handling & Storage:

Keep container closed.

Store at controlled room temperature.

Do not breathe dust.

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

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS AND PERSONAL PROTECTIVE EQUIPMENT:

Ventilation, Respiratory Protection, Protective Clothing, Eye Protection
Material should be handled or transferred in an approved fume hood or with adequate ventilation.

Protective gloves should be worn to prevent skin contact (Neoprene or equivalent)

Safety glasses with side shields should be worn at all times.

Work / Hygienic Practices:

Wash thoroughly after handling.

Do not take internally.

Eye wash and safety equipment should be readily available.

EXPOSURE GUIDELINES

OSHA - PEL:

Component	TWA		STEL		PPM	CL		Skin
	PPM	MG/M ³	PPM	MG/M ³		MG/M ³		

Sodium Formate

ACGIH - TLV:

TWA

STEL

CL

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Component	PPM	MG/M ³	PPM	MG/M ³	PPM	MG/M ³	Skin

Sodium Formate							

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point (C 760 mmHg): N/A
Melting Point (C): 253C
Specific Gravity (H2O = 1): 1.92
Vapor Pressure (mm Hg): N/A
Percent Volatile by Vol (%): N/A
Vapor Density (Air = 1): N/A
Evaporation Rate (BuAc = 1): N/A
Solubility in Water (%): Soluble
Appearance: White crystalline powder

10. STABILITY AND REACTIVITY

Stability: Yes
Hazardous Polymerization:
Does not occur

Hazardous Decomposition.:
Na₂O

Conditions To Avoid: Excessive heat

Materials To Avoid:

- () Water
- () Acids
- () Bases
- () Corrosives
- (X) Oxidizers
- () Other :

11. TOXICOLOGICAL INFORMATION

Toxicity Data:

orl-mus LD50: 11,200 mg/kg

Toxicological Findings:

None

Cited in Registry of Toxic Effects of Substances (RTECS)

12. DISPOSAL CONSIDERATIONS

Special Hazards:**Revision History:**

09/01/84 10/27/87 03/01/91

| = Revised Section
N/A = Not Available
N/E = None Established

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EPA Waste Numbers:

Treatment:

Material does not have an EPA Waste number and is not a listed waste, however consultation with a permitted waste disposal site (TSD) should be accomplished.

ALWAYS CONTACT A PERMITTED WASTE DISPOSER (TSD) TO ASSURE COMPLIANCE WITH ALL CURRENT LOCAL, STATE AND FEDERAL REGULATIONS.

13. TRANSPORT INFORMATION

DOT Shipping Name.....:
non-regulated

DOT Number.....:
none

14. REGULATORY INFORMATION

TSCA Inventory.....:

The CAS number of this product is listed on the TSCA Inventory.

Component	SARA EHS (302)	SARA EHS TPQ (lbs)	CERCLA RQ (lbs)

Sodium Formate			

Component	OSHA Floor List	SARA 313	DeMinimis for SARA 313 (%)

Sodium Formate			

15. OTHER INFORMATION

Comments:

None

NFPA Hazard Ratings:

Health : 0
Flammability : 1
Reactivity : 0

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MATERIAL SAFETY DATA SHEET

EM SCIENCE

Ship To:103366

DOW CHEMICAL
PO BOX 150 BLDG 6601
PLAQUEMINE, LA 70764

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Manufacturer.....:

Preparation Date.: 12/10/92

Date MSDS Printed.: Apr 10, 1993

EM SCIENCE

A Division of EM Industries

P.O. Box 70

480 Democrat Rd.

Gibbstown, N.J. 08027

Information Phone Number.: 609-354-9200

Hours: Mon. to Fri. 8:30-5

Chemtrec Emergency Number: 800-424-9300

Hours: 24 hrs a day

Catalog Number(s):

SX0813

SX0814

SX0815

SX0818

6509

6516

Chemical Name.....: Sodium Thiosulfate

Trade Name.....: Sodium Hyposulfite

Chemical Family...: Inorganic Salts

Formula.....: $\text{Na}_2\text{S}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$

Molecular Weight.: 248.19

2. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS #	Appr %
Sodium Thiosulfate	10102-17-7	100%

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

EMITS TOXIC FUMES WHEN HEATED.

MAY BE HARMFUL IF SWALLOWED.

IRRITATING TO SKIN, EYES AND MUCOUS MEMBRANES.

Appearance.....:

Colorless, odorless crystals

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POTENTIAL HEALTH EFFECTS (ACUTE AND CHRONIC)

Symptoms of Exposure:

Irritating on contact with skin, eyes or mucous membranes; also irritating to G.I. tract.
Toxicity is considered low; however, toxic effect has been evident in blood.
Ingestion of large quantities has cathartic action.

Medical Cond. Aggravated by Exposure:

Data not available.

Routes of Entry.....:

Inhalation, ingestion

Carcinogenicity.....:

The material is not listed (IARC, NTP, OSHA) as cancer causing agent.

4. FIRST AID MEASURES

Emergency First Aid:

GET MEDICAL ASSISTANCE FOR ALL CASES OF OVEREXPOSURE.

Skin: Wash thoroughly with soap and water.

Eyes: Immediately flush thoroughly with water for at least 15 minutes.

Inhalation: Remove to fresh air; give artificial respiration if breathing has stopped.

Ingestion: If conscious, drink water and induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person.

5. FIRE FIGHTING MEASURES

Flash Point (F).....: Noncombustible

Flammable Limits LEL (%): N/A

Flammable Limits UEL (%): N/A

Extinguishing Media.....:

Use any suitable for adjacent material.

Fire Fighting Procedures.:

Wear self-contained breathing apparatus.

Fire & Explosion Hazards.:

Thermal decomposition produces toxic fumes.

6. ACCIDENTAL RELEASE MEASURES

Spill Response:

Evacuate the area of all unnecessary personnel.

Wear suitable protective equipment listed under Exposure / Personal Protection.
Eliminate any ignition sources until the area is determined to be free from explosion or fire hazards.
Contain the release and eliminate its source, if this can be done without risk.
Take up and containerize for proper disposal as described under Disposal.
Comply with Federal, State, and local regulations on reporting releases. Refer to Regulatory Information for reportable quantity and other regulatory data.

7. HANDLING AND STORAGE

Handling & Storage:

Keep container tightly closed.
Store in a cool, dry, well-ventilated area away from oxidizers.
Do not breathe dust.
Do not get in eyes, on skin, or on clothing.
Retained residue may make empty containers hazardous; use caution!

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS AND PERSONAL PROTECTIVE EQUIPMENT:

Ventilation, Respiratory Protection, Protective Clothing, Eye Protection
Material should be handled or transferred in an approved fume hood or with adequate ventilation.
Protective gloves (Nitrile, PVC or equivalent) should be worn to prevent skin contact
Safety glasses with side shields should be worn at all times.
Respiratory Protection: If workplace exposure limit(s) of product or any component is exceeded (see TLV/PEL), a NIOSH/MSHA approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirators (negative pressure type) under specified conditions (see your safety equipment supplier). Engineering and/or administrative controls should be implemented to reduce exposure.

Work / Hygienic Practices:

Wash thoroughly after handling.
Do not take internally.
Eye wash and safety equipment should be readily available.

EXPOSURE GUIDELINES

OSHA - PEL:

Component	PPM	TWA MG/M ³	PPM	STEL MG/M ³	PPM	CL MG/M ³	Skin
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Sodium Thiosulfate

ACGIH - TLV:

Component	PPM	TWA MG/M ³	PPM	STEL MG/M ³	PPM	CL MG/M ³	Skin
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Sodium Thiosulfate

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point (C 760 mmHg): decomposes
Melting Point (C): 48C
Specific Gravity (H2O = 1): 1.729
Vapor Pressure (mm Hg): N/A
Percent Volatile by Vol (%): N/A
Vapor Density (Air = 1): N/A
Evaporation Rate (BuAc = 1): N/A
Solubility in Water (%): Soluble
Appearance:
Colorless, odorless crystals

10. STABILITY AND REACTIVITY

Stability: Yes
Hazardous Polymerization:
Does not occur

Hazardous Decomposition.:
SO_x, Na₂O

Conditions To Avoid: Excessive heat

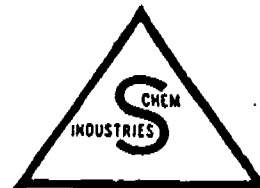
Materials To Avoid:
() Water
(X) Acids
() Bases

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Material Safety Data Sheet

May be used to comply with
OSHA's Hazard Communication Standard,
29 CFR 1910.1200. Standard must be
consulted for specific requirements.

SOUTHERN CHEM INDUSTRIES, INC.
P. O. BOX 222
LAPLACE, LOUISIANA 70069-0222



IDENTITY (As Used on Label and List)	SUPER JET	Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.
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Section I

Manufacturer's Name Southern Chem Industries, Inc.	Emergency Telephone Number (504) 652-5198
Address (Number, Street, City, State, and ZIP Code) P. O. Box 222 LaPlace, Louisiana 70069-0222	Telephone Number for Information (504) 652-5198
	Date Prepared 11-1-91
	Signature of Preparer (optional)

Section II — Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity; Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (optional)
Sodium Hydroxide CAS #1310-73-2		2 mg/m ³		
*Glycol Ether CAS #111-76-2		25 ppm (skin)		<1
*This component is subject to the reporting requirements of SARA Title 313.				

All other components in this product are considered nonhazardous according to the following references:

29CFR Part 1910, Subpart Z(OSHA) Toxic and Hazardous Substances

40CFR Part 355, Appendix A (Extremely Hazardous Substances) EPA

ACGIH TLV for Chemical Substances

NTP Annual Report on Carcinogens

Supplier: Material Safety Data Sheets

California - Proposition 65

Section III — Physical/Chemical Characteristics

Bolling Point	212° F	Specific Gravity (H ₂ O = 1)	1.08
Vapor Pressure (mm Hg.)	Not est.	Melting Point	N.A.
Vapor Density (AIR = 1)	Not est.	Evaporation Rate (Butyl Acetate = 1)	Not est.

Solubility in Water Infinite

Appearance and Odor Clear red liquid, pleasant odor

Section IV — Fire and Explosion Hazard Data

Flash Point (Method Used)	None	Flammable Limits	LL	UEL
Extinguishing Media	None			
Special Fire Fighting Procedures	None			
Unusual Fire and Explosion Hazards	None			

(Reproduce locally)

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DO A 041949
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Section V -- Reactivity Data

Stability	Unstable		Conditions to Avoid
	Stable	X	

Incompatibility (Materials to Avoid) Strong acids

Hazardous Decomposition or Byproducts

None

Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur	X	

Section VI -- Health Hazard Data

Route(s) of Entry:	Inhalation?	Skin?	Ingestion?
		X	X

Health Hazards (Acute and Chronic)

Skin contact will cause irritation and dermatitis. Eye contact will cause burning and irritation. Swallowing may burn gastrointestinal tract.

Carcinogenicity:	NTP?	IARC Monographs?	OSHA Regulated?
	Not established		

Signs and Symptoms of Exposure Burning, redness, dryness of skin. Burning sensation in eyes.

Medical Conditions
Generally Aggravated by Exposure Existing dermatitis

Emergency and First Aid Procedures
Skin contact: Wash with water and soap for 15 minutes. Eye contact: flush with copious amount of water for 15 minutes, consult physician.

Section VII -- Precautions for Safe Handling and Use Swallowing: drink large quantity of water, call physician.

Steps to Be Taken in Case Material Is Released or Spilled
Small spill: Pick up with absorbent material. Large spill: reclaim, put in containers. Neutralize before disposal.

Waste Disposal Method Neutralize. Flush with water. Follow federal, state & local regulations.

Precautions to Be Taken in Handling and Storing
Keep container closed when not in use.

Other Precautions
Wash contaminated clothing before reuse.

Section VIII -- Control Measures

Respiratory Protection (Specify Type) Use if mist present.

Ventilation	Local Exhaust	Special
	Mechanical (General)	Other
	<u>Use if mist present</u>	

Protective Gloves Rubber or neoprene Eye Protection Chemical goggles

Other Protective Clothing or Equipment Rubber boots, protective clothing. Eye wash on premises.

Work/Hygiene Practices Avoid breathing mist.