

MARK V LAB

SAFETY DATA SHEET

Section 1. Identification

Product name

SO16, SO32, SO128 & SO640

1/1/2018

SDS #

450867

Historic SDS #:

02006

Code

450867-US03

Relevant identified uses of the substance or mixture and uses advised against**Product use**

Metalworking fluid - synthetic.

For specific application advice see appropriate Technical Data Sheet or consult our company representative.

ManufacturerMark V Lab
18 Kripes Rd.
East Granby, CT 06026**Supplier**Mark V Laboratory
18 Kripes Rd.
East Granby, CT 06026**EMERGENCY SPILL
INFORMATION:**

1 (800) 424-9300 CHEMTREC (USA)

Section 2. Hazards identification

OSHA/HCS status

This material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). Not classified.

**Classification of the
substance or mixture****GHS label elements**

No signal word.

Signal word

No known significant effects or critical hazards.

Hazard statements**Precautionary statements**

Not applicable.

Prevention

Not applicable.

Response

Not applicable.

Storage

Not applicable.

Disposal**Hazards not otherwise
classified**

Defatting to the skin.

Section 3. Composition/information on ingredients

Corrosion inhibitors and additives in aqueous solution.

Substance/mixture

Mixture

Ingredient name	CAS number	%
borates, tetra, sodium salts-anhydrous	1330-43-4	1-5

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Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Section 3. Composition/information on ingredients

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention.
Skin contact	Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.
Inhalation	In case of inhalation of decomposition products in a fire, symptoms may be delayed. If inhaled, remove to fresh air. The exposed person may need to be kept under medical surveillance for 48 hours. Get medical attention if symptoms occur.
Ingestion	Do not induce vomiting unless directed to do so by medical personnel. Wash out mouth with water if person is conscious. Get medical attention if symptoms occur.
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training.

Most important symptoms/effects, acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. Treatment should in general be symptomatic and directed to relieving any effects.
Specific treatments	No specific treatment.

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Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

In case of fire, use water fog, alcohol resistant foam, dry chemical or carbon dioxide extinguisher or spray. Do not use water jet.

Unsuitable extinguishing media

Specific hazards arising from the chemical

Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous combustion products

Combustion products may include the following:
carbon dioxide
carbon monoxide
nitrogen oxides
metal oxide/oxides

Special protective actions for fire-fighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters

Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment. Floors may be slippery; use care to avoid falling.

For emergency responders

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For nonemergency personnel".

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

Small spill

Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill

Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with noncombustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling

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Protective measures

Put on appropriate personal protective equipment (see Section 8). Avoid breathing vapor or mist. Avoid contact of spilled material and runoff with soil and surface waterways. Avoid prolonged or repeated contact with skin. During metal working, solid particles from workpieces or tools will contaminate the fluid and may cause abrasions of the skin. Where such abrasions result in a penetration of the skin, first aid treatment should be applied as soon as reasonably possible. The presence of certain metals in the workpiece or tool, such as chromium, cobalt and nickel, can contaminate the metalworking fluid and as a result may induce allergic skin reactions. Evaporation of water from soluble cutting fluids during use may lead to an increase in concentration which may result in the development of skin conditions due to irritation and defatting. It is important to monitor fluid strength on a regular basis with a refractometer and maintain it at the recommended concentration. Lubricants from other sources and other contaminants should be minimized. Swarf and other debris should be removed. To maintain optimum performance and minimize bacterial spoilage, machine tool coolant systems should be cleaned on a regular basis.

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Store and use only in equipment/containers designed for use with this product. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. **DO NOT ADD NITRITES TO THIS FLUID.**

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
borates, tetra, sodium salts-anhydrous	ACGIH TLV (United States). STEL: 6 mg/m ³ 15 minutes. Issued/Revised: 1/2005 Form: Inhalable fraction TWA: 2 mg/m ³ 8 hours. Issued/Revised: 1/2005 Form: Inhalable fraction NIOSH REL (United States). TWA: 1 mg/m ³ 10 hours. Issued/Revised: 6/1994

While specific OELs for certain components may be shown in this section, other components may be present in any mist, vapor or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

Appropriate engineering controls

All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should only be considered after other forms of control measures (e.g. engineering controls) have been suitably evaluated. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained. Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. For further information contact your national organisation for standards. Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits. The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible.

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Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Undiluted fluid: Chemical goggles.
Diluted fluid: Safety glasses with side shields.

Skin protection

Hand protection Body protection

Wear suitable gloves. Undiluted fluid: Wear chemical resistant gloves. Recommended: nitrile gloves.

Diluted fluid: Wear protective gloves if prolonged or repeated contact is likely. Recommended: nitrile gloves. The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Use of protective clothing is good industrial practice. Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that will not soak through to the skin. Overalls should be laundered on a regular basis. When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Section 8. Exposure controls/personal protection

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment. The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. Safety procedures should be developed for each intended application. Respiratory protection equipment should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Section 9. Physical and chemical properties

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Appearance

Physical state

Color

Odor

Odor threshold

pH

Melting point

Boiling point

Flash point

Evaporation rate

Flammability (solid, gas)

Lower and upper explosive (flammable) limits

Vapor pressure

Vapor density

Density

Solubility

Solubility

Partition coefficient: noctanol/water

Auto-ignition temperature

Decomposition temperature

Viscosity

Liquid.

Clear Blue. Green.

Not available.

Not available.

9.15 [Conc. (% w/w):

5%] Not available. Not available.

Closed cup: >100°C (>212°F) [Estimated. Water content interferes with flash point determination.] Not available.

Not applicable. Based on - Physical state

Not available.

Not available.

Not available.

>1000 kg/m³ (>1 g/cm³) at 15°C

Soluble in water.

Easily soluble in the following materials: cold water.

Not available.

Not available.

Not available.

Not available.

Section 10. Stability and reactivity

Reactivity

No specific test data available for this product. Refer to Conditions to avoid and Incompatible materials for additional information.

Chemical stability

The product is stable.

Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.
Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to avoid

High temperatures

Incompatible materials

Reactive or incompatible with the following materials: oxidizing materials.

Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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Section 11. Toxicological information

Information on toxicological effects

IARC :

3 - Not classifiable as a human carcinogen.

Information on the likely Routes of entry anticipated: Dermal, Inhalation. **routes of exposure**

Potential acute health effects

Eye contact No known significant effects or critical hazards. **Skin contact** No known significant effects or critical hazards.

Inhalation Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact No specific data.

Skin contact Adverse symptoms may include the following: irritation dryness cracking

No specific data.

No specific data.

Inhalation

Ingestion

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects Not available.

Potential delayed effects Not available.

Long term exposure

Potential immediate effects Not available.

Potential delayed effects Not available.

Potential chronic health effects

General No known significant effects or critical hazards.

Carcinogenicity No known significant effects or critical hazards.

Mutagenicity No known significant effects or critical hazards.

Teratogenicity No known significant effects or critical hazards.

Developmental effects No known significant effects or critical hazards.

Fertility effects No known significant effects or critical hazards.

Numerical measures of

toxicity Acute toxicity

estimates Not available.

Additional information

Alkanolamine: This product contains an alkanolamine. In all metalworking fluids containing amines, there is a potential for forming nitrosamines which are animal carcinogens. Therefore, no nitrites or related nitrosating agents should be added to such compositions.

Section 12. Ecological information

Toxicity

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No testing has been performed by the manufacturer.

Persistence and degradability

Expected to be biodegradable.

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{oc})

Not available.

Mobility

Liquid. Soluble in water.

Other adverse effects

No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods

The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Diluted Fluid The spent diluted fluid comprises a relatively stable emulsion. Dispose of via an authorised person/ licensed waste disposal contractor or by other suitable waste treatment techniques (e.g. emulsion splitting, coagulation and filtration) approved by the local authority. Spent fluid should never be disposed of down the drain. The aqueous phase should not be discharged into sewage systems unless provided for by local regulations; the non-aqueous phase should be disposed of as undiluted fluid. Note that separated aqueous solutions or effluents may contain metal salts as well as traces of oil and must be checked for conformity in these respects against consents given by the authorities before disposal. Further treatment may be required.

Section 14. Transport information

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	DOT Classification	TDG Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	UN3082	UN3082
UN proper shipping name	-	-	Environmentally hazardous substance, liquid, n.o.s. (Poly quaternary ammonium chloride)	Environmentally hazardous substance, liquid, n.o.s. (Poly quaternary ammonium chloride)

Section 14. Transport information

Transport hazard class(es)	-	-	9 	9
Packing group	-	-	III	III
Environmental hazards	No.	No.	Yes.	Yes.
Additional information	Special provisions NOT REGULATED.	-	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. Emergency schedules (EmS) F-A, S-F	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.

Special precautions for user Not available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available.

Section 15. Regulatory information

U.S. Federal regulations

United States inventory All components are listed or exempted. (TSCA 8b)

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SARA 302/304

Composition/information on ingredients

No products were found.

SARA 311/312

Classification

Not applicable.

SARA 313

Form R - Reporting requirements

This product does not contain any hazardous ingredients at or above regulated thresholds.

Supplier notification

This product does not contain any hazardous ingredients at or above regulated thresholds.

State regulations

Massachusetts

New Jersey

Pennsylvania

The following components are listed: TRIETHANOLAMINE; BORON SODIUM OXIDE

The following components are listed: TRIETHANOLAMINE; ETHANOL, 2,2',2"-NITRILOTRIS-; BORATE COMPOUNDS, Inorganic

The following components are listed: ETHANOL, 2,2',2"-NITRILOTRIS-; BORON SODIUM OXIDE (B4NA2O7)

Section 15. Regulatory information

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

Diethanolamine; 2,2'-Iminodiethanol; Propylene oxide; 1,4-dioxane

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm. Ethylene oxide

Other regulations

Australia inventory (AICS)

All components are listed or exempted.

Canada inventory

All components are listed or exempted.

China inventory (IECSC)

All components are listed or exempted.

Japan inventory (ENCS) Korea inventory (KECI)

All components are listed or exempted.

All components are listed or exempted.

Philippines inventory (PICCS)

All components are listed or exempted.

REACH Status

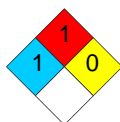
For the REACH status of this product please consult your company contact, as identified in Section 1.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	1
Flammability	1
Physical hazards	0
Personal protection	B

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868. [National Fire Protection Association \(U.S.A.\)](#)



Flammability

Health/Instability/Reactivity

Special

History Date of issue/Date of revision Date of previous issue Key to abbreviations

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No previous validation.

ACGIH = American Conference of Industrial Hygienists

ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

CAS Number = Chemical Abstracts Service Registry Number

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships,

1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

OEL = Occupational Exposure Limit

SDS = Safety Data Sheet

STEL = Short term exposure limit

TWA = Time weighted average

UN = United Nations

UN Number = United Nations Number, a four digit number assigned by the United

Section 16. Other information

Nations Committee of Experts on the Transport of Dangerous Goods.

Indicates information that has changed from previously issued version.

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Notice to reader

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from BP Group.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken. You can contact the BP Group to ensure that this document is the most current available. Alteration of this document is strictly prohibited.