



## Biobor JF Microbicide

### Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Rules & Regulations

Revision: 10/01/2015 Issued: 01/01/2005 Supersedes: 03/01/2006

## SECTION 1.

## PRODUCT AND COMPANY IDENTIFICATION

PRODUCT FORM: Liquid Substance

TRADE NAME: **Biobor JF Microbicide**

CHEMICAL NAME: Substituted Dioxaborinanes

COMPANY: Technol Fuel Conditioners, Inc.  
145 Wyckoff Road  
Eatontown, NJ 07724  
Phone: 1.800.645.4033

EPA REGISTRATION: #652217-1 - Approved for On-Road and Off-Road Fuel Consumption

EMERGENCY PHONE: Chemtrec: 1.800.424.9300 - within USA and Canada  
Chemtrec: 1.703.527.3887 - outside USA and Canada

## SECTION 2.

## HAZARDS IDENTIFICATION

GHS SIGNAL WORD: **DANGER!**

GHS HAZARD PICTOGRAMS:



GHS CLASSIFICATIONS:

PHYSICAL: H226: Flammable liquid and vapor

HEALTH: H302: Harmful if swallowed  
H312: Harmful in contact with skin  
H320: Can cause eye irritation  
H336: May cause drowsiness or dizziness  
H373: May cause damage to organs through prolonged or repeated exposure

ENVIRONMENTAL: H402: Harmful to aquatic life

GHS PRECAUTIONARY STATEMENTS:

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P233: Keep container tightly closed.

P261: Avoid breathing dust/fumes/gas/mist/vapors/spray [As modified by IV ATP].

P262: Do not get in eyes, on skin, or on clothing.

P273: Avoid release into the environment.

P301+P331: IF SWALLOWED, Do NOT induce vomiting.

P410+P411: Protect from sunlight. Store at temperatures between 45°F [7.2°C] and 85°F [29.4°C].

## SECTION 3.

## COMPOSITION AND INGREDIENTS INFORMATION

Chemical Name	Hazard Date	% By Weight	CAS Number	SARA 311	SARA 312	SARA 313
Dioxaborinanes	Not Known	95%	8063-89-6	YES	YES	NONE
Naphtha	Not Known	4.5%	8030-30-6	NONE	NONE	NONE
Arsenic	CA Prop 65	Trace (<0.01%)	7440-38-2	YES	YES	NONE
Coneg	CA Prop 65	No Data	No Data	NONE	NONE	NONE



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#### SECTION 4. FIRST AID MEASURES

INHALATION:	Overexposure can cause dizziness, lack of coordination, and breathing complications, unlikely to occur under normal usage conditions. Handlers should always wear a self-contained breathing apparatus in the positive mode with a full face-piece due to the likelihood of fumes, smoke, and hazardous component decomposition. Remove to fresh air and deploy artificial respiration if not breathing. Get medical attention.
SKIN CONTACT:	Can cause irritation of exposed skin due to defatting of skin tissue. Handlers should always wear rubber gloves. Wash exposed skin vigorously with general soap and water. Get medical attention if skin irritation persists.
EYE CONTACT:	Can cause irritation of exposed eye tissue. Handlers should always wear splash-proof goggles. Rinse eyes with cool flowing water for at least 15 minutes and get immediate medical attention.
INGESTION:	Can cause irritation of the gastrointestinal tract and possible fatal kidney liver damage. <b><u>IMMEDIATELY INDUCE VOMITING.</u></b> Deploy artificial respiration if not breathing. Get immediate medical attention.

#### SECTION 5. FIREFIGHTING MEASURES

##### Special Hazards and Procedures:

This product poses no unusual fire fighting problems. It will burn if involved in a fire. Oxides of sulfur (SO<sub>2</sub>) will be given off while burning. Combustion may produce oxides of carbon and oxides of calcium. Water may be used to cool fire-exposed containers and structures but is not a suitable extinguishing media.

##### Protective Equipment:

As in any fire, firefighters must be equipped to prevent breathing of vapors or products of combustion. Wear an approved self-contained goggled breathing apparatus, protective gloves and clothing.

##### Extinguishing Media:

Dry chemical, CO<sub>2</sub> and foam are suitable. Water jets or any water-based fluid are not suitable. Closed containers may be cooled with water. Treat large fires as an oil fire. Oil will float on water and can cause fire to spread. Heat from fire can generate flammable vapor.

#### SECTION 6. ACCIDENTAL RELEASE PRECAUTIONS

PERSONAL:	Wearing suitable protective equipment, eliminate sources of ignition and open nearby windows to ventilate the problem area.
ENVIRONMENTAL:	Product has very low solubility in water. Prevent from entering sewer system, surface water or soil.
FOR SPILL CLEAN-UP:	Shut off leak and dike up large spills. Absorb with an inert material such as sand, soil or vermiculite. Sweep up absorbent and dispose in accordance with regulatory requirements.

#### SECTION 7. PRODUCT HANDLING & STORAGE

HANDLING:	This product is best stored in its original container. Steel or HDPE containers are recommended replacements and electrically bond and ground all containers and equipment. Avoid contact with eyes, skin and clothing. Avoid breathing vapors, aerosol and mists. Use with adequate ventilation and wash thoroughly after handling. Never use pressure to empty drums.
STORAGE:	Full or partially-filled containers should always be kept upright and away from strong oxidizing agents. This product will pump down to 10°F [-12.2°C]. Nonetheless, it is recommended that full or partially-filled containers be stored in a cool dry place between 45° - 85°F [7.2° - 29.4°C]. Store in original container if possible, and keep all chemical containers away from direct sunlight and tightly closed when not in use.



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#### SECTION 8.

#### EXPOSURE CONTROL/PERSONAL PROTECTION

VENTILATION:	None normally required. Use additional ventilation if needed to control vapor concentrations particularly if a mist is generated or fumes from hot material are present.
RESPIRATORY:	None required if area adequately ventilated. Use appropriate respiratory protection if used in confined areas. If used in an application where a mist may be generated, observe a TWA/PEL of 5 mg/m <sup>3</sup> (OSHA, ACGIH) for a mineral oil mist. Use a respirator with dual organic vapor/mist and particulates cartridge if vapor concentration exceeds permissible exposure limit.
SKIN PROTECTION:	Use neoprene-type gloves and apron.
EYE PROTECTION:	Wear chemical safety goggles or a full-plate face shield. Contact lenses should not be worn.

#### SECTION 9.

#### PHYSICAL & CHEMICAL PROPERTIES

Appearance:	Yellow Liquid	Odor:	Aromatic Characteristic
Boiling Point:	> 529°F [> 276°C]	Density at 25°C (gm/cm <sup>3</sup> ):	1.05
Vapor Pressure:	> 1 @ 20°C (mm Hg)	Vapor density (Air = 1):	> 1
Solubility in Water:	Moderately Soluble	Solubility in Organic Solvents:	Soluble
pH:	Not Determined	Flash point, COC (ASTM D-93):	102°F
Pounds per Gallon:	8.7	Evaporation Rate:	< 1 (Butyl Alcohol =1)
Freeze Point:	10°F (-12.2°C)	Volatiles By Volume @ 68°F (20°C):	Not Determined

#### SECTION 10.

#### STABILITY AND REACTIVITY

This product is stable and not subject to hazardous polymerization.

Hazardous Decomposition Products: Oxides of carbon (carbon monoxide and carbon dioxide), oxides of hydrogen (contaminated and hazardous water), and oxides of Nitrogen can occur when exposed to heat at 350°F (176.7°C).

Incompatible materials: Strong oxidizers such as hydrogen peroxide, oxidizing chlorine, and bromine compounds (e.g. chlorine bleach) and chromic acid should be avoided.

Conditions to avoid: Extreme heat and sources of fire or ignition.

#### SECTION 11.

#### TOXICOLOGICAL INFORMATION

ROUTES OF EXPOSURE:	Eye contact, skin contact, inhalation of vapors, and ingestion.
ACUTE TOXICITY:	The handling procedures and safety precautions in this SDS should be followed to minimize employee exposure.
CHRONIC EFFECTS:	Can cause eye, skin and gastrointestinal irritation. Irritation of tissue, defatting of skin, gastrointestinal irritation, Kidney and Liver damage.
SYMPTOMS:	Irritation of exposed tissue and organs, blurriness of vision, dizziness, fainting, and lack of physical coordination.
LD50:	Not Established.
NTP/IARC/OSHA:	This product and none of its components are listed as a carcinogens, mutagens, or teratogens.

#### SECTION 12.

#### ECOLOGICAL INFORMATION

No specific aquatic data is available. This product should be kept away from all bodies of water, and prevented from entering sewer streams. It may be necessary to extract soil where large spills have occurred. No specific Bioaccumulation data is available. No specific Terrain Migration data is available.



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#### SECTION 13. DISPOSAL CONSIDERATIONS

**WASTE DISPOSAL:** This product should be incinerated as a waste oil, at a certified and registered waste disposal site, in compliance with all federal, state and local regulations and requirements.

**RCRA STATUS OF UNUSED PRODUCT:** Dispose of this product in permitted hazardous wastes sites. Keep this product away lakes, streams, rivers, ponds, sewer systems, and any other body of water.

#### SECTION 14. TRANSPORTATION INFORMATION

##### US DOT Classification:



**NA 1993** - Not Applicable

Proper Shipping Name: Not Applicable  
Shipping Class: Not Applicable  
Packing Group: Not Applicable  
NMFC Rating: Not Applicable



**UN 1993** - Flammable Liquid, NOS (placard required on ground carriers) regardless of container size.

Proper Shipping Name: Flammable Liquid, N.O.S.  
NMFC Rating: Class 65 (regardless of package or container size)  
Hazard Label: Class 3 (regardless of package or container size)  
Packing Group: III (regardless of package or container size)

##### IMDG Classification:

This product is not known to be a marine pollutant according to the International Marine Dangerous Goods Codes, however it can cause harm to aquatic life.

##### WHMIS Label: F152

##### ICAO Classification:

Proper Shipping Name: Flammable Liquid, N.O.S.  
Class: 3  
UN/NA ID #: UN1993  
Packing Group: III

##### IBC Classification:

Guidance on transporting this product in bulk by ocean freight can be obtained from Annex II of Marpol 73/78 and the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk.

##### All Transportation Methods:

Keep packages and containers upright and tightly sealed at all time during transportation. Do not expose packages and containers to direct sunlight, extreme heat, or any source of ignition. All product should be transported in their original packaging and containers. Rubber, plastic or other lined containers should not be used.

#### SECTION 15. REGULATORY INFORMATION

There are no other national and/or regional statutes or information on this product, including OSHA, Department of Transportation, Environmental Protection Agency, Consumer Product Safety Commission, and Right-To-Know Act not previously addressed in this document.

Chemical Name

CAS #

NJ TS Number

None



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## SECTION 16. OTHER INFORMATION

This product has not been tested in long term, chronic exposure, therefore, the handling procedures and safety precautions in the SDS should be followed to minimize employee exposure.

Label Information for the United States: CAUTION: May cause skin and eye irritation. Do not swallow. Avoid eye and skin contact. Wash thoroughly after handling. Avoid contact with clothing. Wash clothing before reuse. Keep out of reach of children. Keep containers tightly closed when not in use. Avoid breathing mists or sprays of this product or its solutions.

### EMPLOYER RESPONSIBILITY

Employers must ensure that these Material Safety Data Sheets are readily accessible and available to all their employees responsible for the storage, handling, and manipulation of this product. This can be done in many ways, such as organizing all chemicals SDS in freely available binders kept in areas where the chemicals are stored, or on computers the handling employees have access to without the inconvenience of leaving the work or storage area. We strongly recommend the binder method which keeps them available in the event of a power outage or other emergency inhibiting computer use. Employers may want to consider designating two persons (primary and backup) responsible for obtaining and maintaining SDS records. If the employer does not have a particular SDS for a chemical commodity, the employer or responsible designate should contact the chemical manufacturer to obtain one prior to product use.

### REFERENCES

OSHA, 29 CR 1910.1200(g) and Appendix D.

United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS), 3rd Revised Edition, United Nations, 2009. These references and other information related to the revised Hazard Communication Standard can be found on OSHA's Hazard Communication Safety and Health Topics web site at: <http://www.osha.gov/dsg/hazcom/index.html>.

### DISCLAIMER

This brief provides a general overview of the Material Safety Data Sheet requirements as mandated by the Hazard Communication Standard 29 CFR 1910.1200(g) and Appendix D of 29 CFR 1910.1200. It does not alter or determine compliance responsibilities in the standard or the Occupational Safety and Health Act of 1970. Since interpretations and enforcement policy may change over time, the reader should consult current OSHA interpretations, decisions by the Occupational Safety and Health Review Commission, and the courts for additional guidance on OSHA compliance requirement. Please note that states with OSHA-approved state plans may have additional requirements for chemical safety data sheets, outside of those outlined above. For more information on those standards, please visit: <http://www.osha.gov/dcsp/osp/statestandards.html>.

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# Biobor<sup>®</sup> JF Microbicide

## Material Safety Data Sheet I

### Section 1. CHEMICAL PRODUCT AND COMPANY INFORMATION.

Effective Date 1/1/2005

PRODUCT INFORMATION: **Biobor JF<sup>®</sup>**  
GENERIC DESCRIPTION: Substituted Dioxaborinanes  
PRODUCT USE: Biocide  
TECHNICAL SUPPORT, contact (800) 645-4300  
Technol Fuel Conditioners, Inc  
145 Wyckoff Road, Suite 305  
Eatontown, NJ. 07724  
EMERGENCY Chemtrec numbers:  
USA: (800) 424-9300. International: 001-703-527-3887.  
Owner: Hammonds Fuel Additives, Inc.

TSCA NO: n/a

Pesticide-exempt from TSCA

CAS NO: 8063-89-6

EPA REG. NO. 652217-1

#### Hazard Ratings

	HMIS	NFPA
Health	1	1
Fire	2	2
Reactivity	0	0
*=Chronic		

### Section 2. COMPOSITION / INFORMATION ON INGREDIENTS.

COMMON NAME:	CAS#	Approximate % (w/w)
Substituted dioxaborinanes	See below *	95.0
Naphtha	8030-30-6	4.5
NON-HAZARDOUS and other ingredients below reportable levels		Balance
*2,2' -(1-methyltrimethylenedioxy) bis - (40methl-1, 3, 2-Dioxaborinanes);		
2,2' - oxybis (4, 4, 6—trimethl-1, 3, 2-Dioxaborinanes) (CAS No.: 8063-89-6		

### Section 3. HAZARDS IDENTIFICATION.

**EMERGENCY OVERVIEW:** COMBUSTIBLE LIQUID AND VAPORS (FLAMMABLE IF SHIPPED BY AIR/VESSEL). INHALATION CAN CAUSE DIZZINESS, HEADACHE AND INCOORDINATION. MAY CAUSE RESPIRATORY TRACT IRRITATION. MAY CAUSE DIGESTIVE TRACT IRRITATION. INGESTION MAY CAUSE NAUSEA, VOMITING, PAIN, UPSET STOMACH, DIARRHEA. INHALATION MAY CAUSE NAUSEA, VOMITING, UPSET STOMACH. MAY CAUSE EYE IRRITATION. MAY CAUSE SKIN IRRITATION. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. See sections 3, 5, & 6.

PRIMARY ROUTE OF EXPOSURE: Eye, Skin. Inhalation (breathing).

EYE CONTACT: May cause slight to mild irritation. May cause corneal opacity (clouding of the eye surface). Can cause burning sensation, tearing, and redness.

SKIN CONTACT: May cause slight to mild irritation. Prolonged or repeated contact may dry the skin and lead to irritation (i.e. dermatitis).

INHALATION (breathing): Irritating to the eyes, nose, and respiratory tract. Can cause dizziness, headaches, and incoordination. Nausea, vomiting, and stomach upset can occur.

INGESTION (swallowing): Irritating to the mouth, throat, and stomach. May cause nausea, committing, pain and stomach upset (e.g., diarrhea). Can cause dizziness, faintness, headache, and incoordination.

TARGET ORGANS/CHRONIC EFFECTS : Eyes, Skin.

CONDITIONS AGGRAVATED BY EXPOSURE : Skin.

CARCINOGENICITY:	ACGIH	IARC	NTP	OSHA
Substituted dioxaborinanes	No	No	No	No
Naphtha	No	No	No	No

# Biobor<sup>®</sup> JF Microbicide

## Material Safety Data Sheet II

### Section 4. FIRST AID MEASURES.

EYE CONTACT: Immediately flush with plenty of water for at least 15 minutes. Get medical attention if irritation persists.

INHALATION (breathing): Remove to fresh air. If symptoms develop, seek immediate medical attention. If not breathing, give artificial respiration.

NOTE TO PHYSICIANS: Treatment should be directed at preventing absorption, administering to symptoms (if they occur), and providing therapy.

INGESTION (swallowing): Seek medical attention. Immediately induce vomiting, as directed by medical personal. Never give anything by mouth to an unconscious person.

SHIN CONTACT: Immediately flush with water. Remove contaminated clothing and shoes get medically attention if irritation persists. Professionally wash clothing and shoes before re-use.

### Section 5. FIRE FIGHTING METHOD.

FLASH POINT : 102°F, 38.8°C Method - Tagliabue Closed Cup

EXPLOSIVE LIMITS : LEL (%) Not Determined, UEL (%) Not Determined

AUTOIGNITION : Not Determined

HAZARDOUS COMBUSTION AND DECOMPOSITION PRODUCTS: Smoke, soot, and toxic/irritating fumes (i.e., carbon dioxide, carbon monoxide, est.).

FIRE FIGHTING PROCEDURES/EQUIPMENT: Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH-approved positive pressure self-contained breathing apparatus NIOSH-approved positive pressure self-contained breathing apparatus (SCBA) and full protective clothing.

FIRE AND EXPLOSIVE HAZARDS: High temperatures can cause sealed containers to rupture due to buildup of internal pressure. Cool with water. Vapors can travel to a source of ignition (flame, electric motor, hot surface, cigarette, est.) and flash back. During a fire, Irritating and highly toxic gases may be generated during combustion or decomposition.

### Section 6. ACCIDENTAL RELEASE MEASURES.

EVACUATION: Isolate hazard area. Keep unnecessary and unprotected personal from entering. eliminate all sources of ignition.

CONTAINMENT: Safely stop discharge. Contain material, as necessary, with dike or barrier. Stop material from contaminating soil, or from entering sewers or bodies of water.

REPORTING: Spills of this material in excess of a component's RQ must be reported to the national Response Center (800) 424-8802 and to the appropriated state and local emergency response organizations

CLEAN-UP/PERSONAL PROTECTION EQUIPMENT: Appropriate safety measures and protective equipment should be used. Use supplied air respirator or self-contained breathing apparatus in enclosed spaces, or if airborne exposure limits can be exceeded. See Section 8.

COLLECTION AND DISPOSAL: Stop discharge, if safe to do so. Use proper protective equipment. Use non-sparking tools and/or explosion-proof equipment. Stop ignition sources. Cover spills with absorbent clay or sawdust and place in closed chemical waste containers. Dispose of according to applicable local, state, and federal regulations.



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REV. 04/2012

# Biobor<sup>®</sup> JF Microbicide

## Material Safety Data Sheet III

### Section 7. HANDLING AND STORAGE.

TRANSFER: Containers should be supported and grounded before opening, dispensing, mixing, pouring, and emptying. Open with non-sparking tools. If container is warm, open bung slowly to release internal pressure.

PERSONAL HYGIENE: Wash thoroughly after handling, especially before eating, drinking, smoking, and using restroom facilities. Wash contaminated goggles and gloves. Professionally launder contaminated clothing before re-use.

EMPTY CONTAINER PRECAUTIONS: **Attention!** This container hazardous when empty. Follow label warnings even after container is emptied since empty containers may retain product residues. Do not reuse empty containers without professional cleaning for food, clothing, or products for human or animal consumption or where skin contact can occur

STORAGE CONDITIONS: Store in cool, dry, well ventilated area away from heat, ignition sources, and direct sunlight. Keep containers tightly closed. **WARNING:** Hot organic chemical vapors or mists can suddenly, and without warning, combust when mixed with air. Ignition can occur at typical elevated temperature process conditions. Any use in such processes should be evaluated thoroughly to assure safe operating conditions.

### Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION.

EXPOSURE GUIDELINES: ACGIH - TLV - No regulated ingredients. OSHA - PEL, Naphtha

EYE PROTECTION: Wear chemical splash goggles. An eye wash facility should be readily available.

ENGINEERING CONTROLS / VENTILATION: Local exhaust ventilation is recommended when vapors, mists, or dusts can be released in excess of established airborne exposure limits (TLVs, or PELs).

SKIN PROTECTION: Wear protective clothing and appropriate impervious gloves. Because a variety of protective gloves exist, consult glove manufacturer to determine the proper type for a specific operation.

RESPIRATORY PROTECTION: Avoid breathing vapor and/or mists. Wear NIOSH/MSHA-approved equipment. Determine the appropriate type of consulting the respirator manufacturer. High airborne concentrations may necessitate the use of self-contained breathing apparatus (SCBA).

### Section 9. PHYSICAL AND CHEMICAL PROPERTIES.

pH : Not available

APPEARANCE : Yellow

VOC MATERIAL : Not Determined

SPECIFIC GRAVITY : 1.05

VAPOR DENSITY, Air =1: >1

EVAPORATION RATE : < 1 (N-Butyl alcohol)

ODOR : Aromatic

SOLUBILITY : Moderately soluble

BOILING POINT : 529°F, 276.1°C.

PHYSICAL STATE : liquid

% NON-VOL (w/w) : 95

NOTE: The physical data presented above are typical values and should not be construed as specifications.

### Section 10. STABILITY AND REACTIVITY.

CHEMICAL STABILITY : Stable under normal conditions of use.

CONDITIONS TO AVOID : High temperatures.

HAZARDOUS POLYMERIZATION : Will not occur.

INCOMPATIBILITY WITH OTHER MATERIALS : Water, Oxidizers.



# Biobor<sup>®</sup> JF Microbicide

## Material Safety Data Sheet IV

### Section 11. TOXIC INFORMATION.

#### COMPONENTS:

Substituted Dioxaborinanes:

Eye, skin, and respiratory tract irritant.

Oral LD<sub>50</sub> Rat 3.16 ml/Kg

Dermal LD<sub>50</sub> Rabbit 9.1 ml/Kg

Naphtha: Eye, skin, and respiratory tract irritant.

### Section 12. ECOLOGICAL INFORMATION.

No data available on this product.

### Section 13. DISPOSAL CONSIDERATIONS

SPECIAL INSTRUCTIONS: Be sure to contact the appropriate government environmental agencies if further guidance is required.

GENERAL STATEMENTS: Federal regulations may apply to empty container. State and/or local regulations may be different.

DISPOSAL: When a decision is made to discard this material as supplied, it meet's RCRA's characteristic definition of ignitability.

GENERAL RECOMMENDATIONS: Of the methods of disposal currently available, it is recommended that an alternative be selected according to the following order of preference, based upon environmental acceptability: (1) recycle or rework, if feasible; (2) incinerate at an authorized facility; (3) treat at an acceptable waste treatment facility.

### Section 14. TRANSPORTATION INFORMATION.

	49 CFR	IATA	IMO
FLAMMABLE LIQUID, NOS. (petroleum naphtha)	Y	Y	Y
D.O.T. LABEL	: Flammable liquid.		
UN/NA id Num	: UN 1993		
D.O.T. LABEL No.	: L152 (For Canadian Shipments F 154)		
HAZARD CLASS	: 3 (IATA/49 CFR) 3.3 (IMO)		
PACKING GROUP	: III	WHMIS label:	F 152

### Section 15. REGULATORY INFORMATION.

#### FEDERAL:

This product is considered hazardous under the OSHA Hazard Communication Standard (29 CFR 1910.1200).

SARA TITLE III - section 311/312 - Hazard Categories: Y - Fire Hazard  
N - Sudden Release of Pressure Hazard  
N - Reactivity Hazard  
Y - Immediate (acute) Health Hazard  
N - Delayed (chronic) Health Hazard

Ozone-Depleting Chemicals - No regulated ingredients.

SARA Section 313 Toxic Chemicals - No regulated ingredients.

SARA Section 302 Extremely Hazardous Mat - No regulated ingredients.



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REV. 04/2012

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## Material Safety Data Sheet V

*Continued*

### Section 15. REGULATORY INFORMATION. STATE RIGHT - TO - KNOW:

Pennsylvania - New Jersey R - T - K

Substituted Dioxaborinanes	8063-89-6	95.0
Naphtha	8030-30-6	4.5
Non-hazardous trade secret ingredient(s)	Proprietary Balance	

California - California Proposition 65

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

Arsenic	7440-38-2	Trace *
Cancer Hazard		

\* Trace = present at less than 0.01 percent

CONEG - No data available.

Canada:

This is a "controlled product" under the Canadian Workplace Material Information System (WHMIS). Class B, Division 3 Class D, Division 2, Sub - division B

CEPA - NPRI - No regulated ingredients.

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### Section 16. OTHER INFORMATION.

#### User's Responsibility.

A bulletin such as this cannot be expected to cover all possible individual situations. As the user has the responsibility to provide a safe workplace, all aspects of an individual operation should be examined to determine if, or where, precautions - in addition to those described here - are required. Any health hazard and safety information herein should be passed on to you customers or employees, as the case may be.

#### Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no warranty, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. No representations or warranties, either expressed or implied, of merchantability, fitness for a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws, and regulations.



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# Biobor® JF Microbicide

## For Algae and Bacteria Problems

Biobor® JF eliminates growth of harmful slime producing fungi and algae that clog filters and fuel lines, attacks rubber fuel system components and whose waste products aid in the corrosion of metal surfaces.

### How do I know if I have a fungi problem?

Evidence of the problem is usually seen first on the filters, as **slimy**, un-filterable **blobs**, that may be **brown**, **black** or **greenish** in color. The cap may show similar signs, or the fuel may have a sulfur smell. The physical presents of microorganisms is usually made known by the presents of one or more of these damaging characteristics.

Biobor® JF combats fungus and other microbial life in hydrocarbon fuels such as Home Heating oil, but is also effective in light oils and transmission fluid.

It works by eliminating the growth of Hydrocarbon Utilizing Micro-organisms (HUM-bugs) which is the cause of this type of fuel tank contamination, and does not adversely effect fuel performance in any way. HUM-bugs live in the region of the tank where fuel and water meet. Biobor® JF is very effective due the fact that it mixes with both the water and fuel, there is nowhere for the HUM-bugs to hide. Clinical tests found it simple to use and harmless to a wide variety of fuel system parts, top coatings, sealants, and elastomeric materials.

Biobor® JF has been successfully used by airlines, marine, heavy equipment, railroads, and stationary engines such as pumps and generators. Bulk storage terminals, fuel suppliers, hydrocarbon fuels and oils that are exposed to possible fungal, algae or bacterial contamination can also benefit from it's use.

For best results and the proper use of  
**Biobor® JF:**

Drain / remove any water from the bottom of the fuel tank. Water in any tanks should be kept to a minimum. Good housekeeping is important in proper treatment of fungus / algae problems, but is not the cure.

Biobor® JF is initially used at 220ppm in fuel to effect sterilization, and subsequently at 135ppm to maintain fungus-free fuel system.

Ideally, Biobor® JF should be metered. However, in the absence of metering equipment, it may be manually batch-blended.

When batch-blending, Biobor® JF should be introduced when the tank is half full, and while the tank is being filled. This will ensure faster and more complete dispersion. But can be applied at any time to a refueled tank.

### Summary of Hazards

Keep out of reach of children and animals.  
Corrosive. Causes severe eye damage and skin irritation. Do not get in eyes, on skin, or clothing. Wear rubber gloves, goggles or face shield when handling. Harmful if swallowed or absorbed through the skin.



**Technol Fuel Conditioners, Inc.**

Tel: 800 645-4033

[www.technol.com](http://www.technol.com)

Fax: 732 542-0109

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The logo for Biobor JF Microbicide is contained within a dark, rounded rectangular box with a fine grid pattern. The text "Biobor® JF" is in a bold, sans-serif font, with "Biobor" followed by a registered trademark symbol and "JF". Below it, the word "Microbicide" is also in a bold, sans-serif font.

## **Biobor® JF Microbicide**

## **Combats Microbial Life In Diesel & Fuel Oil**

- Sterilizes the fuel system enabling it to remain algae-free
- Eliminates the growth of micro-organisms
- Reduces fuel and fuel tank biological contamination
- Reduces fuel pick-up, filter, and line clogging
- Use with any petroleum fuel

*Used by Home Heating Fuel companies ⇔ Approved for Aviation Use*



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# Biobor<sup>®</sup> JF Microbicide

## Technical Data Sheet

### DESCRIPTION

Biobor JF is an effective liquid fuel additive that combats fungus and other microbial life in hydrocarbon fuels such as Home heating oil. With proper use Biobor JF eliminates growth of harmful slime-producing fungi and algae that clog filters and fuel lines, attack rubber fuel system components and whose waste products aid in the corrosion of metal surfaces. Biobor JF is easy to use and harmless to the wide variety of fuel system parts, top coatings, sealants and elastomeric materials used.

### APPLICATION

Biobor JF is best used with a fuel management plan. There are two levels of addition: (1) a shock dose for contaminated or at risk systems and (2) a maintenance dose for clean, less risky fuel systems. The most reliable way to get Biobor JF into the fuel system is by metered injection; if the use of an injection system is not possible, a batch may be made to pre-dilute the product.

Another method is direct addition to the top of the tank. If this method is used, the tank should be half full before the addition to the fuel tank, then continue to Apply while filling the tank. Protect Biobor JF from any water contamination and keep all containers closed from the atmosphere.

### COMPOSITION

Biobor JF is a Microbicide for Hydrocarbon Utilizing Micro-organisms (or, HUM Bugs) specially formulated for Home heating oil and Jet fuels. It is a Flammable Liquid. It does not adversely affect fuel performance in engines.

### BENEFITS

- ◆ Reduces filter and fuel line clogging.
- ◆ Eliminates the growth of Micro-Organisms
- ◆ Reduces fuel and fuel tank contamination.
- ◆ Sterilizes fuel enabling it to remain algae free.

### PHYSICAL & CHEMICAL PROPERTIES

pH	: Not Applicable
ODOR	: Aromatic
EVAP RATE	: <1 (n-Butyl Alcohol)
FLASH POINT	: 102°F 38.8°C
APPEARANCE	: Yellow, Liquid
BOILING POINT	: 529°F (276.1°C)
SPECIFIC GRAVITY	: 1.05

### AVAILABILITY

Biobor JF is readily available in;  
8-oz Bottles packed 12 per case,  
16-oz Bottles packed 12 per case,  
Quart Bottles packed 6 per case,  
Gallon Bottles packed 4 per case,  
5-Gallon Pails,  
55-Gallon drums.



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# Biobor® JF Microbicide

## Material Safety Data Sheet I

### Section 1. CHEMICAL PRODUCT AND COMPANY INFORMATION.

Effective Date 1/1/2005

PRODUCT INFORMATION: Biobor® JF  
GENERIC DESCRIPTION: Substituted Dioxaborinanes  
PRODUCT USE: Biocide  
TECHNICAL SUPPORT, contact (800) 645-4300  
Technol Fuel Conditioners, Inc  
12 Christopher Way, Suite 102  
Eatontown, NJ. 07724  
EMERGENCY Chemtrec numbers:  
USA: (800) 424-9300. International: 001-703-527-3887.  
Owner: Hammonds Fuel Additives, Inc.

TSCA NO: n/a  
Pesticide-exempt from TSCA  
CAS NO: 8063-89-6  
EPA REG. NO. 652217-1

#### Hazard Ratings

	HMIS	NFPA
Health	1	1
Fire	2	2
Reactivity	0	0

\*=Chronic

### Section 2. COMPOSITION / INFORMATION ON INGREDIENTS.

COMMON NAME:	CAS#	Approximate % (w/w)
Substituted dioxaborinanes	See below *	95.0
Naphtha	8030-30-6	4.5
NON-HAZARDOUS and other ingredients below reportable levels		Balance

\*2,2' -(1-methyltrimethylenedioxy) bis - (40methl-1, 3, 2-Dioxaborinanes);  
2,2' - oxybis (4, 4, 6—trimethl-1, 3, 2-Dioxaborinanes) (CAS No.: 8063-89-6)

### Section 3. HAZARDS IDENTIFICATION.

**EMERGENCY OVERVIEW:** COMBUSTIBLE LIQUID AND VAPORS (FLAMMABLE IF SHIPPED BY AIR/VESSEL). INHALATION CAN CAUSE DIZZINESS, HEADACHE AND INCOORDINATION. MAY CAUSE RESPIRATORY TRACT IRRITATION. MAY CAUSE DIGESTIVE TRACT IRRITATION. INGESTION MAY CAUSE NAUSEA, VOMITING, PAIN, UPSET STOMACH, DIARRHEA. INHALATION MAY CAUSE NAUSEA, VOMITING, UPSET STOMACH. MAY CAUSE EYE IRRITATION. MAY CAUSE SKIN IRRITATION. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. See sections 3, 5, & 6.

**PRIMARY ROUTE OF EXPOSURE:** Eye, Skin. Inhalation (breathing).

**EYE CONTACT:** May cause slight to mild irritation. May cause corneal opacity (clouding of the eye surface). Can cause burning sensation, tearing, and redness.

**SKIN CONTACT:** May cause slight to mild irritation. Prolonged or repeated contact may dry the skin and lead to irritation (i.e. dermatitis).

**INHALATION (breathing):** Irritating to the eyes, nose, and respiratory tract. Can cause dizziness, headaches, and incoordination. Nausea, vomiting, and stomach upset can occur.

**INGESTION (swallowing):** Irritating to the mouth, throat, and stomach. May cause nausea, committing, pain and stomach upset (e.g., diarrhea). Can cause dizziness, faintness, headache, and incoordination.

**TARGET ORGANS/CHRONIC EFFECTS** : Eyes, Skin.

**CONDITIONS AGGRAVATED BY EXPOSURE** : Skin.

CARCINOGENICITY:	ACGIH	IARC	NTP	OSHA
Substituted dioxaborinanes	No	No	No	No
Naphtha	No	No	No	No

# Biobor® JF Microbicide

## Material Safety Data Sheet II

### Section 4. FIRST AID MEASURES.

**EYE CONTACT:** Immediately flush with plenty of water for at least 15 minutes. Get medical attention if irritation persists.

**INHALATION (breathing):** Remove to fresh air. If symptoms develop, seek immediate medical attention. If not breathing, give artificial respiration.

**NOTE TO PHYSICIANS:** Treatment should be directed at preventing absorption, administering to symptoms (if they occur), and providing therapy.

**INGESTION (swallowing):** Seek medical attention. Immediately induce vomiting, as directed by medical personal. Never give anything by mouth to an unconscious person.

**SHIN CONTACT:** Immediately flush with water. Remove contaminated clothing and shoes get medically attention if irritation persists. Professionally wash clothing and shoes before re-use.

### Section 5. FIRE FIGHTING METHOD.

**FLASH POINT** : 102°F, 38.8°C Method - Tagliabue Closed Cup

**AUTOIGNITION** : Not Determined

**EXPLOSIVE LIMITS** : LEL (%) Not Determined, UEL (%) Not Determined

**HAZARDOUS COMBUSTION AND DECOMPOSITION PRODUCTS:** Smoke, soot, and toxic/irritating fumes (i.e., carbon dioxide, carbon monoxide, est.).

**FIRE FIGHTING PROCEDURES/EQUIPMENT:** Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH-approved positive pressure self-contained breathing apparatus NIOSH-approved positive pressure self-contained breathing apparatus (SCBA) and full protective clothing.

**FIRE AND EXPLOSIVE HAZARDS:** High temperatures can cause sealed containers to rupture due to buildup of internal pressure. Cool with water. Vapors can travel to a source of ignition (flame, electric motor, hot surface, cigarette, est.) and flash back. During a fire, Irritating and highly toxic gases may be generated during combustion or decomposition.

### Section 6. ACCIDENTAL RELEASE MEASURES.

**EVACUATION:** Isolate hazard area. Keep unnecessary and unprotected personal from entering. eliminate all sources of ignition.

**CONTAINMENT:** Safely stop discharge. Contain material, as necessary, with dike or barrier. Stop material from contaminating soil, or from entering sewers or bodies of water.

**REPORTING:** Spills of this material in excess of a component's RQ must be reported to the national Response Center (800) 424-8802 and to the appropriated state and local emergency response organizations

**CLEAN-UP/PERSONAL PROTECTION EQUIPMENT:** Appropriate safety measures and protective equipment should be used. Use supplied air respirator or self-contained breathing apparatus in enclosed spaces, or if airborne exposure limits can be exceeded. See Section 8.

**COLLECTION AND DISPOSAL:** Stop discharge, if safe to do so. Use proper protective equipment. Use non-sparking tools and/or explosion-proof equipment. Stop ignition sources. Cover spills with absorbent clay or sawdust and place in closed chemical waste containers. Dispose of according to applicable local, state, and federal regulations.

# Biobor<sup>®</sup> JF Microbicide

## Material Safety Data Sheet III

### Section 7. HANDLING AND STORAGE.

**TRANSFER:** Containers should be supported and grounded before opening, dispensing, mixing, pouring, and emptying. Open with non-sparking tools. If container is warm, open bung slowly to release internal pressure.

**PERSONAL HYGIENE:** Wash thoroughly after handling, especially before eating, drinking, smoking, and using restroom facilities. Wash contaminated goggles and gloves. Professionally launder contaminated clothing before re-use.

**EMPTY CONTAINER PRECAUTIONS: Attention!** This container hazardous when empty. Follow label warnings even after container is emptied since empty containers may retain product residues. Do not reuse empty containers without professional cleaning for food, clothing, or products for human or animal consumption or where skin contact can occur.

**STORAGE CONDITIONS:** Store in cool, dry, well ventilated area away from heat, ignition sources, and direct sunlight. Keep containers tightly closed. **WARNING:** Hot organic chemical vapors or mists can suddenly, and without warning, combust when mixed with air. Ignition can occur at typical elevated temperature process conditions. Any use in such processes should be evaluated thoroughly to assure safe operating conditions.

### Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION.

**EXPOSURE GUIDELINES:** ACGIH - TLV - No regulated ingredients. OSHA - PEL, Naphtha

**EYE PROTECTION:** Wear chemical splash goggles. An eye wash facility should be readily available.

**ENGINEERING CONTROLS / VENTILATION:** Local exhaust ventilation is recommended when vapors, mists, or dusts can be released in excess of established airborne exposure limits (TLVs, or PELs).

**SKIN PROTECTION:** Wear protective clothing and appropriate impervious gloves. Because a variety of protective gloves exist, consult glove manufacturer to determine the proper type for a specific operation.

**RESPIRATORY PROTECTION:** Avoid breathing vapor and/or mists. Wear NIOSH/MSHA-approved equipment. Determine the appropriate type of consulting the respirator manufacturer. High airborne concentrations may necessitate the use of self-contained breathing apparatus (SCBA).

### Section 9. PHYSICAL AND CHEMICAL PROPERTIES.

pH	: Not available	ODOR	: Aromatic
APPEARANCE	: Yellow	SOLUBILITY	: Moderately soluble
VOC MATERIAL	: Not Determined	BOILING POINT	: 529°F, 276.1°C.
SPECIFIC GRAVITY	: 1.05	PHYSICAL STATE	: liquid
EVAPORATION RATE	: < 1 (N-Butyl alcohol)	% NON-VOL (w/w)	: 95
VAPOR DENSITY, Air =1	: >1		

**NOTE:** The physical data presented above are typical values and should not be construed as specifications.

### Section 10. STABILITY AND REACTIVITY.

CHEMICAL STABILITY	: Stable under normal conditions of use.
CONDITIONS TO AVOID	: High temperatures.
HAZARDOUS POLYMERIZATION	: Will not occur.
INCOMPATIBILITY WITH OTHER MATERIALS	: Water, Oxidizers.

# Biobor® JF Microbicide

## Material Safety Data Sheet IV

### Section 11. TOXIC INFORMATION.

#### COMPONENTS:

Substituted Dioxaborinanes:

Eye, skin, and respiratory tract irritant.

Oral LD<sub>50</sub> Rat 3.16 ml/Kg

Dermal LD<sub>50</sub> Rabbit 9.1 ml/Kg

Naphtha: Eye, skin, and respiratory tract irritant.

### Section 12. ECOLOGICAL INFORMATION.

No data available on this product.

### Section 13. DISPOSAL CONSIDERATIONS

SPECIAL INSTRUCTIONS: Be sure to contact the appropriate government environmental agencies if further guidance is required.

GENERAL STATEMENTS: Federal regulations may apply to empty container. State and/or local regulations may be different.

DISPOSAL: When a decision is made to discard this material as supplied, it meet's RCRA's characteristic definition of ignitability.

GENERAL RECOMMENDATIONS: Of the methods of disposal currently available, it is recommended that an alternative be selected according to the following order of preference, based upon environmental acceptability: (1) recycle or rework, if feasible; (2) incinerate at an authorized facility; (3) treat at an acceptable waste treatment facility.

### Section 14. TRANSPORTATION INFORMATION.

EMERGENCY NUMBER: (800) 424-9300 (Chemtrec). INTERNATIONAL: 001-703-527-3887

	49 CFR	IATA	IMO
FLAMMABLE LIQUID, NOS. (petroleum naphtha)	Y	Y	Y
D.O.T. LABEL	: Flammable liquid.		
UN/NA id Num	: UN 1993		
D.O.T. LABEL No.	: L152 (For Canadian Shipments F 154)		
HAZARD CLASS	: 3 (IATA/49 CFR) 3.3 (IMO)		
PACKING GROUP	: III	WHMIS label:	F 152

### Section 15. REGULATORY INFORMATION.

#### FEDERAL:

This product is considered hazardous under the OSHA Hazard Communication Standard (29 CFR 1910.1200).

SARA TITLE III - section 311/312 - Hazard Categories: Y - Fire Hazard  
N - Sudden Release of Pressure Hazard  
N - Reactivity Hazard  
Y - Immediate (acute) Health Hazard  
N - Delayed (chronic) Health Hazard

Ozone-Depleting Chemicals - No regulated ingredients.

SARA Section 313 Toxic Chemicals - No regulated ingredients.

SARA Section 302 Extremely Hazardous Mat - No regulated ingredients.

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*Continued on next page*

# Biobor<sup>®</sup> JF Microbicide

## Material Safety Data Sheet V

### Continued - Section 15. REGULATORY INFORMATION.

#### STATE RIGHT - TO - KNOW:

Pennsylvania - New Jersey R - T - K

Substituted Dioxaborinanes	8063-89-6	95.0
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Naphtha	8030-30-6	4.5
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Non-hazardous trade secret ingredient(s)	Proprietary	Balance
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California - California Proposition 65

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

Arsenic	7440-38-2	Trace *
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Cancer Hazard

\* Trace = present at less than 0.01 percent

CONEG - No data available.

Canada:

This is a "controlled product" under the Canadian Workplace Material Information System (WHMIS). Class B, Division 3 Class D, Division 2, Sub - division B

CEPA - NPRI - No regulated ingredients.

### Section 16. OTHER INFORMATION.

#### User's Responsibility.

A bulletin such as this cannot be expected to cover all possible individual situations. As the user has the responsibility to provide a safe workplace, all aspects of an individual operation should be examined to determine if, or where, precautions - in addition to those described here - are required. Any health hazard and safety information herein should be passed on to you customers or employees, as the case may be.

#### Disclaimer of Liability:

The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no warranty, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. No representations or warranties, either expressed or implied, of merchantability, fitness for a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws, and regulations.



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# Biobor® JF Microbicide

## Application Chart

Biobor's application ratio differs from other conditioners and is determined not only by the amount of fuel to be conditioned, but by "fuel weight" in pounds per gallon. Different fuels (Gasoline, JP4, Kerosene, Fuel oil, Diesel, Bunker C) do not weight the same per gallon and the ratio is different for each. Biobor is one of the few products where adding more than required will amount to less than desired results. DO NOT OVERDOSE. To make things easy, the following application chart was developed for the typical average weight for each fuel in question. To be exact contact your fuel supplier for the Proper "fuel weight" and use the following formula.  
**Shock Ratio** - Gallons of fuel X Pounds per gallon X 0.004 = Ounces of Biobor required.  
**Maintenance Ratio** - Gallons of fuel X Pounds per gallon X 0.002 = Ounces of Biobor required.

Type of Fuel	Gasoline		Jet A1, JP4		Kerosene		Fuel Oil & Diesel		Bunker C	
Pounds per Gallon	6.100		6.343		6.714		7.080		8.305	
Ounces of Biobor =	Shock	Maintain	Shock	Maintain	Shock	Maintain	Shock	Maintain	Shock	Maintain
Gallons of Fuel										
25	0.75	0.50	0.75	0.50	0.75	0.50	0.75	0.50	1.00	0.50
50	1.25	0.75	1.25	0.75	1.50	0.75	1.50	0.75	1.75	1.00
75	2.00	1.00	2.00	1.00	2.0	1.00	2.25	1.25	2.50	1.25
100	2.50	1.25	2.75	1.25	2.75	1.50	3.00	1.50	3.50	1.75
125	3.00	1.50	3.25	1.50	3.50	1.75	3.50	1.75	4.25	2.00
150	3.75	2.00	4.00	2.00	4.00	2.00	4.25	2.25	5.00	2.50
175	4.25	2.25	4.50	2.25	4.75	2.50	5.00	2.50	6.00	3.00
200	5.00	2.50	5.25	2.50	5.50	2.75	5.75	3.00	6.75	3.50
225	5.50	2.75	5.75	3.00	6.00	3.00	6.50	3.25	7.50	3.75
250	6.25	3.00	6.50	3.25	6.75	3.50	7.00	3.50	8.50	4.25
275	6.75	3.50	7.00	3.50	7.50	3.75	8.00	4.00	9.25	4.50
300	7.50	3.75	7.75	4.00	8.00	4.00	8.50	4.25	10.00	5.00
325	8.00	4.00	8.25	4.25	8.75	4.50	9.25	4.75	11.00	5.50
350	8.50	4.25	9.00	4.50	9.50	4.75	10.00	5.00	11.75	6.00
375	9.25	4.50	9.50	4.75	10.00	5.00	10.75	5.50	12.50	6.25
400	9.75	5.00	10.25	5.00	10.75	5.50	11.50	5.75	13.50	6.75
425	10.50	5.25	10.75	5.50	11.50	5.75	12.00	6.00	14.25	7.00
450	11.00	5.50	11.50	5.75	12.00	6.00	12.75	6.50	15.00	7.50
475	11.50	6.00	12.00	6.0	12.75	6.50	13.50	6.75	16.00	8.00
500	12.25	6.25	12.75	6.50	13.50	6.75	14.25	7.00	16.75	8.50
550	13.50	6.75	14.00	7.0	14.75	7.50	15.75	7.75	18.50	9.25
600	14.75	7.50	15.25	7.75	16.25	8.00	17.00	8.50	20.00	10.00
700	17.00	8.50	17.75	9.00	19.00	9.50	20.00	10.00	23.25	11.75
800	19.50	9.75	20.50	10.25	21.50	10.75	22.75	11.50	26.75	13.50
900	22.00	11.00	23.00	11.50	24.25	12.00	25.50	12.75	30.00	15.00
1,000	24.50	12.25	25.50	12.75	27.00	13.50	28.50	14.25	33.25	16.75

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