SAFETY DATA SHEET

Issue Date 12-Dec-2014 **Revision Date** 22-Sep-2016 **Version** 3

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

Product identifier

Product Name **ADVALUBE™ B-4540 SPECIALTY LUBRICANT**

Other means of identification

Biogenix Product Code B-4540
SDS Code B-4540
Document B-4540

Recommended use of the chemical and restrictions on use

Recommended Use Lubricant.
Uses advised against Consumer use

Details of the supplier of the safety data sheet

Supplier Address
PMC Biogenix, Inc.
1231 Pope Street
Memphis, TN 38108
USA

Emergency telephone number

Company Phone Number PMC Biogenix Customer Service: 1-800-641-2152
24 Hour Emergency Phone Number Chemtrec 1-800-424-9300
Emergency Telephone Biogenix Environmental Health and Safety Department +1-901-320-5820

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Combustible dust	-

Label elements

Emergency Overview

Warning

May form combustible dust concentrations in air

The product contains no substances which at their given concentration, are considered to be hazardous to health

Appearance powder, pellets **Physical state** Solid **Odor** No information available

Hazards not otherwise classified (HNOC)
Dust can form an explosive mixture with air

Other Information
May be harmful in contact with skin. Causes mild skin irritation.
Unknown Acute Toxicity 12.5 % of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature Preparation.

Chemical Name	CAS No	Weight-%	Trade Secret
Zeolites	1318-02-1	40	*
Fatty Acid Ester Lubricant	Proprietary	20 - 30%	*
Fatty Acid Esters	Proprietary	10 - 20%	*
Water	7732-18-5	10	*
Polyethylenes, oxidized, low molecular weight	68441-17-8	7.5	*
Fatty alcohols	Proprietary	0 - 10%	*

*The exact percentage (concentration) of composition has been withheld as a trade secret. If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

First aid measures

General advice If symptoms persist, call a physician. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing.

Eye contact Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.

Skin Contact Consult a physician if necessary. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Inhalation Remove to fresh air. Call a physician. If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

Ingestion Rinse mouth. Drink plenty of water. If symptoms persist, call a physician. Do NOT induce vomiting.

Self-protection of the first aider Use personal protective equipment as required.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

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

Unsuitable extinguishing media Do not use a solid water stream as it may scatter and spread fire.

Specific hazards arising from the chemical
Avoid creating dust. Dust can form an explosive mixture with air. Thermal decomposition can lead to release of irritating and toxic gases and vapors. Do not allow run-off from fire-fighting to enter drains or water courses.

Hazardous combustion products Carbon dioxide (CO2). Carbon monoxide. Hydrocarbons.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge Fine dust dispersed in air, in sufficient concentrations, and in the presence of an ignition

source is a potential dust explosion hazard.

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

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation, especially in confined areas. Avoid creating dust. Dust can form an explosive mixture with air.

Environmental precautions

Environmental precautions Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. See section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for cleaning up Use personal protective equipment as required. Take up mechanically, placing in appropriate containers for disposal. Clean contaminated surface thoroughly. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. Avoid creating dust. Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children.

Incompatible materials Acids, Bases, Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines Exposure limits are listed below, if they exist.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH	PMC OEL
Dust DUST	TWA: 10 mg/m³ Inhl TWA: 3 mg/m³ Resp	TWA: 5 mg/m³ Resp TWA: 15 mg/m³ Total 29CFR1910.1000	-	-

Appropriate engineering controls

Engineering Controls Showers, Eyewash stations, Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles.

Skin and body protection Wear protective gloves and protective clothing.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be

required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations Avoid contact with skin, eyes or clothing. Avoid breathing (dust, vapor, mist, gas). Wash face, hands and any exposed skin thoroughly after handling. Use personal protective equipment as required.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Solid		
Appearance	powder, pellets	**Odor**	No information available
Color	beige	**Odor threshold**	No information available

Property	**Values**	**Remarks • Method**
pH	7	
Melting point / freezing point	95 °C / 203 °F	
Boiling point / boiling range	> 200 °C / 392 °F	(based on components)
Flash point	200 °C / 392 °F	(based on components)
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Specific Gravity	No information available	
Water solubility	No information available	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive properties	Dust can form an explosive mixture with air	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	0
Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity
No known effects under normal use conditions.

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Hazardous polymerization
Hazardous polymerization does not occur.

Conditions to avoid
Avoid creating dust. Dust can form an explosive mixture with air. Extremes of temperature and direct sunlight.

Incompatible materials
Acids, Bases, Strong oxidizing agents.

Hazardous Decomposition Products
Carbon dioxide (CO2), Carbon monoxide, Hydrocarbons.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information Product does not present an acute toxicity hazard based on known or supplied information.

Inhalation Inhalation of dust in high concentration may cause irritation of respiratory system.

Eye contact Dust contact with the eyes can lead to mechanical irritation.

Skin Contact No data available.

Ingestion No data available.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Zeolites	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	>15 mg/l
Fatty Acid Ester Lubricant	2000 mg/kg (Rat)		
Fatty Acid Esters	>2000 mg/kg (Rat)		
Water	> 90 mL/kg (Rat)		
Polyethylenes, oxidized, low molecular weight	> 2000-6400 mg/kg (Rat)	>2,000 mg/kg (Rabbit)	
Fatty alcohols	> 10000 mg/kg (Rat)	> 8000 mg/kg (Rabbit)	

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.
Germ cell mutagenicity No information available.
Carcinogenicity This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Chemical Name	ACGIH	IARC	NTP	OSHA
Zeolites 1318-02-1		Group 3		

IARC (International Agency for Research on Cancer)
Not classifiable as a human carcinogen

Reproductive toxicity No information available.
STOT - single exposure No information available
STOT - repeated exposure No information available.
Aspiration hazard No information available.

Numerical measures of toxicity - Product Information

Unknown Acute Toxicity 12.5 % of the mixture consists of ingredient(s) of unknown toxicity
The following values are calculated based on chapter 3.1 of the GHS document .
ATEmix (oral) 7448 mg/kg
ATEmix (dermal) 4375 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity

48.20003 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Toxicity to	Crustacea

			microorganisms	
Zeolites 1318-02-1	= 18: 96 h Desmodesmus subspicatus mg/L EC50 = 130: 72 h Algae mg/L OECD	= 1800: 96 h Brachydanio rerio mg/L LC50 semi-static 3200 - 5600: 96 h Oryzias latipes mg/L LC50 semi-static 1800 - 3200: 96 h Poecilia reticulata mg/L LC50 semi-static	= 1550: 16 h Pseudomonas putida mg/L EC50	1000 - 1800: 48 h Daphnia magna mg/L EC50
Fatty alcohols	= 235 mg/l ErC50	> 1000 mg/l LC50		= 1666: 48 h Daphnia magna mg/L EC50

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Chemical Name	Partition coefficient
Fatty alcohols	6.65

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container. Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION

DOT Not regulated

IATA Not regulated.

IMDG Not regulated

15. REGULATORY INFORMATION

All of the components in the product are on the following Inventory lists
The classification and labeling information in this Safety Data Sheet should be viewed as provisional.

International Inventories

EINECS/ELINCS	Complies or Exempt
TSCA	Complies
AICS	Complies
DSL/NDSL	Complies
ENCS	Does not comply
KECL	Complies
PICCS	Complies
IECSC	Complies
NZIoC	Complies

TCSI Complies

Legend:

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

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). Any Substance regulated Title 40 of the Code of Federal Regulations, Part 372 is listed below, if it exists.

SARA 311/312 Hazard Categories

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

CWA (Clean Water Act)

Any Substance regulated as a pollutant pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42) is listed below, if it exists.

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Fatty Acid Ester Lubricant		X		

CERCLA

Any Substance regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) is listed below, if it exists.

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Fatty Acid Ester Lubricant			X

U.S. EPA Label Information

EPA Pesticide Registration Number Not Applicable

16. OTHER INFORMATION

NFPA	**Health hazards** 1	**Flammability** 1	**Instability** 0	**Physical and Chemical Properties** -
HMIS	**Health hazards** 1	**Flammability** 1	**Physical hazards** 0	**Personal protection** X

Prepared By PMC Group
Issue Date 12-Dec-2014
Revision Date 22-Sep-2016
Revision Note

No information available

This material safety data sheet complies with the requirements of 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Disclaimer

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

End of Safety Data Sheet