



Material Safety Data Sheet

Flomax 50

HEALTH	2
FLAMMABILITY	2
PHYSICAL HAZARD	0
PERSONAL PROTECTION	

1. Product and Company Identification

Material name Flomax 50
Version # 06
Issue date January-22-2013
Revision date April-29-2013
Supersedes date April-29-2013
CAS # Mixture
Product use Stimulation Surfactant
Manufacturer information Universal Well Services, Inc.
159 Northwood Drive,
Meadville, PA 16335 United States
Product Safety (814) 337-1115

Supplier information Universal Well Services, Inc.
18360 Technology Drive
Meadville, PA 16335 US
Supplier emergency telephone number(s) CHEMTREC (800)424-9300/(703)527-3887

2. Hazards Identification

Emergency overview WARNING
Flammable liquid and vapor. Harmful if swallowed. May cause central nervous system effects. May cause eye irritation. May cause reproductive effects. May cause sensitization by skin contact. Kidney injury may occur. Liver injury may occur. Prolonged exposure may cause chronic effects.

OSHA regulatory status This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

Potential health effects

Routes of exposure Inhalation. Ingestion. Skin contact. Eye contact.

Eyes May cause eye irritation. Contact may cause irritation with redness, tearing and pain. Avoid contact with eyes.

Skin Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. Components of the product may be absorbed into the body through the skin. Avoid contact with the skin.

Inhalation May cause irritation of respiratory tract. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Prolonged inhalation may be harmful. Avoid breathing dust/fume/gas/mist/vapors/spray.



Ingestion	Harmful if swallowed. May cause dizziness, incoordination, headache, nausea, and vomiting. Do not ingest.
Target organs	Central nervous system. Reproductive organs. Liver. Kidney.
Chronic effects	Can cause adverse reproductive effects. Liver and kidney injuries may occur. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.
Signs and symptoms	Decrease in motor functions. Behavioral changes. Irritating to mouth, throat, and stomach. Defatting of the skin. Skin irritation. Rash.
Potential environmental effects	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Alcohol C6-C12, Ethoxylated	68439-45-2	5 - 15
Ethylene Glycol	107-21-1	5 - 15
Isopropyl alcohol	67-63-0	5 - 15
D-Limonene	5989-27-5	1 - 5
1-Octanol	111-87-5	1 - 2.5

4. First Aid Measures

First aid procedures

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Skin contact

Immediately flush skin with plenty of water. Remove contaminated clothing, including shoes, after flushing has begun. Get medical attention if irritation develops and persists. Thoroughly wash (or discard) clothing and shoes before reuse.

Inhalation

Call a POISON CENTER or doctor/physician if you feel unwell. If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed.

Ingestion

Get medical advice/attention if you feel unwell. If ingestion of a large amount does occur, call a poison control center immediately. Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not induce vomiting without medical advice. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

General advice

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. If you feel unwell, seek medical advice (show the label where possible). Show this safety data sheet to the doctor in attendance.

5. Fire Fighting Measures

Extinguishing media

Suitable extinguishing media

Water fog. Carbon dioxide (CO₂). Alcohol resistant foam. Dry chemical powder.

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.



Protection of firefighters

Protective equipment and precautions for firefighters

Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighters protective clothing will only provide limited protection.

Fire fighting equipment/instructions

Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. ALWAYS stay away from tanks engulfed in flame. If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions. In the event of fire, cool tanks with water spray. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out. Some of these materials, if spilled, may evaporate leaving a flammable residue.

Specific methods

In the event of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental Release Measures

Personal precautions

Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak. Keep out of low areas. Vapors are heavier than air and may travel along the ground to some distant source of ignition and flash back. Ensure adequate ventilation. Ventilate closed spaces before entering them.

Environmental precautions Methods for containment

Prevent further leakage or spillage if safe to do so. Do not contaminate water.
ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk. Prevent entry into waterways, sewer, basements or confined areas. Should not be released into the environment.

Methods for cleaning up

Eliminate ignition sources including sources of electrical, static or frictional sparks. Extinguish all flames in the vicinity.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Clean contaminated surface thoroughly.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills in original containers for re-use. For waste disposal, see section 13 of the MSDS.

Other information

Clean up in accordance with all applicable regulations.

7. Handling and Storage

Handling

DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Vapors may travel to a source of ignition and flash back. All equipment used when handling the product must be grounded. When using, do not eat, drink or smoke. Do not use in areas without adequate ventilation. Wash thoroughly after handling. Wear personal protective equipment. Avoid release to the environment. Do not empty into drains. Do not breathe mist or vapor. Do not get this material in contact with eyes. Do not taste or swallow. Do not get on skin and clothing.



Storage

The pressure in sealed containers can increase under the influence of heat. Keep away from heat and sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a closed container away from incompatible materials. Keep away from food and drink. Store in a well-ventilated place. Keep container tightly closed. Store in accordance with local/regional/national/international regulation.

8. Exposure Controls / Personal Protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Ethylene Glycol (107-21-1)	Ceiling	100 mg/m3	Aerosol.
Isopropyl alcohol (67-63-0)	STEL	400 ppm	
	TWA	200 ppm	

US. ACGIH. BEIs. Biological Exposure Indices

Components	Type	Value
Isopropyl alcohol (67-63-0)	BEI	40 mg/l

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Isopropyl alcohol (67-63-0)	PEL	980 mg/m3 400 ppm

Engineering controls

Ensure adequate ventilation, especially in confined areas. Eye wash fountain and emergency showers are recommended.

Personal protective equipment

Eye / face protection

Avoid contact with eyes. Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection

Avoid contact with the skin. Wear protective gloves. Wear suitable protective clothing. Normal work clothing (long sleeved shirts and long pants) is recommended. Closed-toe shoes recommended.

The suitability for a specific workplace should be discussed with the producers of the protective gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.

General hygiene considerations

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice. When using, do not eat, drink or smoke.

9. Physical & Chemical Properties

Appearance	Clear liquid.
Physical state	Liquid.
Form	Liquid.
Color	Water White.
Odor	Orange.
Odor threshold	Not available.



pH	5.5 - 7.5
Vapor pressure	Not available.
Vapor density	Not available.
Boiling point	185 °F (85 °C)
Melting point/Freezing point	Not available.
Solubility (water)	Not available.
Specific gravity	0.97 - 1.03 0.86 estimated
Relative density	Not available.
Flash point	104.00 °F (40.00 °C)
Flammability limits in air, upper, % by volume	Not available.
Flammability limits in air, lower, % by volume	Not available.
Auto-ignition temperature	Not available.
Other data	
Density	8.08 - 8.58 lbs/gal

10. Chemical Stability & Reactivity Information

Chemical stability	Risk of ignition.
Conditions to avoid	Heat, flames and sparks. Avoid temperatures exceeding the flash point.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.
Possibility of hazardous reactions	Hazardous polymerization does not occur.

11. Toxicological Information

Toxicological data

Components	Species	Test Results
1-Octanol (111-87-5)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 5 g/kg
<i>Oral</i>		
LD50	Mouse	1800 mg/kg
D-Limonene (5989-27-5)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	2000.0001 mg/kg
<i>Oral</i>		
LD50	Mouse	5600 - 6600 mg/kg



Components	Species	Test Results
	Rat	4400 mg/kg
<i>Other</i>		
LD50	Mouse	1.3 g/kg
	Rat	0.11 g/kg
Ethylene Glycol (107-21-1)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	9530 mg/kg
<i>Oral</i>		
LD50	Rat	5.89 g/kg
Isopropyl alcohol (67-63-0)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	12870 mg/kg
		12800 mg/kg
	Rat	12870 mg/kg
<i>Inhalation</i>		
LC50	Rat	72.6 mg/l/4h
<i>Oral</i>		
LD50	Dog	4797 mg/kg
	Mouse	3600 mg/kg
		4.5 g/kg
	Rabbit	6410 mg/kg
		5.03 g/kg
	Rat	4396 mg/kg
		4.7 g/kg
<i>Other</i>		
LD50	Mouse	1509 mg/kg
	Rat	1099 mg/kg

* Estimates for product may be based on additional component data not shown.

Sensitization	May cause sensitization by skin contact.
Acute effects	Harmful if swallowed.
Local effects	Irritating to eyes. Components of the product may be absorbed into the body through the skin.
Chronic effects	Prolonged or repeated exposure may cause liver and kidney damage. Prolonged exposure may cause chronic effects.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.



ACGIH Carcinogens

Ethylene Glycol (CAS 107-21-1)
 Isopropyl alcohol (CAS 67-63-0)

A4 Not classifiable as a human carcinogen.
 A4 Not classifiable as a human carcinogen.

IARC Monographs. Overall Evaluation of Carcinogenicity

D-Limonene (CAS 5989-27-5)

3 Not classifiable as to carcinogenicity to humans.

Neurological effects

Hazardous by OSHA criteria.

Teratogenicity

Ethylene glycol is considered a developmental hazard based on animal evidence.

Further information

Symptoms may be delayed.

12. Ecological Information

Ecotoxicological data

Product		Species	Test Results
Flomax 50 (Mixture)			
Algae	IC50	Algae	13158 mg/L, 72 Hours
Crustacea	EC50	Daphnia	1438.0835 mg/L, 48 Hours, estimated
Fish	LC50	Fish	581 mg/L, 96 Hours
Components			
1-Octanol (111-87-5)			
Fish	LC50	Fish	13.1 mg/L, 96 Hours
Aquatic			
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>)	11.4 - 12.9 mg/l, 96 hours
D-Limonene (5989-27-5)			
Fish	LC50	Fish	702 mg/L, 96 Hours
Aquatic			
Crustacea	EC50	Water flea (<i>Daphnia pulex</i>)	69.6 mg/l, 48 hours
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>)	0.619 - 0.796 mg/l, 96 hours
Ethylene Glycol (107-21-1)			
Aquatic			
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>)	8050 mg/l, 96 hours
Isopropyl alcohol (67-63-0)			
Algae	IC50	Algae	1000.0001 mg/L, 72 Hours
Crustacea	EC50	Daphnia	13299 mg/L, 48 Hours
Fish	LC50	Fish	9640 mg/L, 96 Hours
Aquatic			
Fish	LC50	Bluegill (<i>Lepomis macrochirus</i>)	> 1400 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Ecotoxicity

Contains a substance which causes risk of hazardous effects to the environment.

Environmental effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal

Persistence and degradability

Not available.



Bioaccumulation / Accumulation

Bioaccumulative potential

Octanol/water partition coefficient log Kow

Isopropyl alcohol	0.05
Ethylene Glycol	-1.36
1-Octanol	3
D-Limonene	4.232

Partition coefficient

Isopropyl alcohol	0.05
Ethylene Glycol	-1.36
1-Octanol	3
D-Limonene	4.232

13. Disposal Considerations

Waste codes D001: Waste Flammable material with a flash point <140 F

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Do not incinerate sealed containers. Do not allow this material to drain into sewers/water supplies. Dispose in accordance with all applicable regulations. It is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets the criteria for hazardous waste.

Waste from residues / unused products Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.

Contaminated packaging Empty containers should be sent to an approved waste handling site for recycling or disposal.

14. Transport Information

DOT

Basic shipping requirements:

UN number	UN1993
Proper shipping name	Flammable liquids, n.o.s. (Isopropyl alcohol; D-Limonene)
Hazard class	3
Packing group	III
Additional information:	
Special provisions	B1, B52, IB3, T4, TP1, TP29
Packaging exceptions	150
Packaging non bulk	203
Packaging bulk	242

DOT

BULK

Basic shipping requirements:

UN number	UN1993
Proper shipping name	Flammable liquids, n.o.s. (Isopropyl alcohol; D-Limonene)
Hazard class	3
Packing group	III
Additional information:	
Special provisions	B1, B52, IB3, T4, TP1, TP29
Packaging exceptions	150
Packaging non bulk	203



Packaging bulk 242

TDG

Proper shipping name FLAMMABLE LIQUID, N.O.S. (Isopropyl alcohol; D-Limonene)

Hazard class 3

UN number UN1993

Packing group III

Special provisions 16

IATA

UN number UN1993

UN proper shipping name Flammable liquid, n.o.s. (Isopropyl alcohol; D-Limonene)

Transport hazard class(es) 3

Packing group III

ERG code 3L

IMDG

UN number UN1993

UN proper shipping name FLAMMABLE LIQUID, N.O.S. (Isopropyl alcohol; D-Limonene)

Transport hazard class(es) 3

Packing group III

EmS No. F-E, S-E

DOT; DOT BULK



IATA; IMDG; TDG



15. Regulatory Information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.



Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2))

Not regulated.

DEA Essential Chemical Code Number

Not regulated.

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Not regulated.

DEA Exempt Chemical Mixtures Code Number

Not regulated.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration

Ethylene Glycol (CAS 107-21-1) 1.0 %

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

Ethylene Glycol (CAS 107-21-1) Listed.

CERCLA (Superfund) reportable quantity

Ethylene Glycol: 5000.0000

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
 Immediate Hazard - Yes
 Delayed Hazard - Yes
 Fire Hazard - Yes
 Pressure Hazard - No
 Reactivity Hazard - No

Section 302 extremely hazardous substance No

Section 311 hazardous chemical No

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

US - New Jersey RTK - Substances: Listed substance

Ethylene Glycol (CAS 107-21-1) Listed.



Isopropyl alcohol (CAS 67-63-0)

Listed.

US - Pennsylvania RTK - Hazardous Substances: Listed substance

1-Octanol (CAS 111-87-5)

Listed.

Ethylene Glycol (CAS 107-21-1)

Listed.

Isopropyl alcohol (CAS 67-63-0)

Listed.

16. Other Information

Further information

HMIS® is a registered trade and service mark of the NPCA.

HMIS® ratings

Health: 2
Flammability: 2
Physical hazard: 0

NFPA ratings

Health: 2
Flammability: 2
Instability: 0

Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available. THIS PRODUCT'S HEALTH AND SAFETY INFORMATION IS PROVIDED TO ASSIST OUR CUSTOMERS IN ASSESSING COMPLIANCE WITH HEALTH, SAFETY AND ENVIRONMENTAL REGULATIONS. THE INFORMATION CONTAINED HEREIN IS BASED ON DATA AVAILABLE TO US, AND IS BELIEVED TO BE ACCURATE, ALTHOUGH NO GUARANTEE OR WARRANTY IS PROVIDED OR IMPLIED BY THE COMPANY IN THIS RESPECT. SINCE THE USE OF THIS PRODUCT IS WITHIN THE EXCLUSIVE CONTROL OF THE USER, IT IS THE USER'S RESPONSIBILITY TO DETERMINE THE CONDITIONS OF SAFE USE. SUCH CONDITIONS MUST COMPLY WITH ALL GOVERNMENTAL REGULATIONS.

This data sheet contains changes from the previous version in section(s):

This document has undergone significant changes and should be reviewed in its entirety.