



Lilly Industries, Inc.

Material Safety Data Sheet

JDM F9H AGRICULTURAL YELLOW 2.8 VOC AGMIX ENAMEL

1. Product and Company Identification

Product Trade Name	JDM F9H AGRICULTURAL YELLOW 2.8 VOC AGMIX ENAMEL	Validation Date	27 July 2000
Synonyms	JDM F9H AGRICULTURAL YELLOW 2.8 VOC AGMIX ENAMEL JDM F9H AGRICULTURAL YELLOW 2.8 VOC AGMIX ENAMEL	Product Code	5440L90230
Chemical Family	Not available.	Internal Code	Not available.
Packaging	Not available.		
Product Type	Not available.		
Product Use	Not available.	Description	JDM F9H AGRICULTURAL YELLOW 2. JDM F9H AGRICULTURAL YELLOW 2.
Manufactured/ Supplied	LILLY - MOLINE 5400 23RD AVE. MOLINE IL 61265 Daytime Phone: 309-762-7546 Emergency Phone: 800-424-9300		

2. Composition and Information on Hazardous Ingredients

Ingredient Name	CAS #	% by Weight	Exposure Limits	Vapor Pressure	LEL-UEL
1) ETHYL BENZENE	100-41-4	1.5-4	TWA 100 ppm from ACGIH (United States, 1994). STEL 125 ppm from ACGIH (United States, 1994). TWA 100 ppm from OSHA (United States, 1989). STEL 125 ppm from OSHA (United States, 1989). TWA 100 ppm from NIOSH (United States, 1994). STEL 125 ppm from NIOSH (United States, 1994).	0.9 kPa (@ 20°C)	Not available.
2) XYLENE ISOMERS	1330-20-7	8-13	TWA 100 ppm from ACGIH (United States, 1996). STEL 150 ppm from ACGIH (United States, 1996). TWA 100 ppm from OSHA (United States, 1989). STEL 150 ppm from OSHA (United States, 1989).	0.9 kPa (@ 20°C)	Not available.
3) TITANIUM DIOXIDE	13463-67-7	8-13	TWA 10 mg/m ³ from ACGIH (United States, 1996). TWA 10 mg/m ³ from OSHA (United States, 1989). Notes: Total	Not applicable.	Not available.
4) N-BUTYL PROPIONATE	590-01-2	4-8	Not available.	Not available.	Not available.
5) METHYL N-AMYL KETONE (2-HEPTANONE)	110-43-0	4-8	TWA 50 ppm from ACGIH (United States, 1994). TWA 100 ppm from OSHA (United States, 1989). TWA 100 ppm from NIOSH (United States, 1994).	0.3 kPa (@ 20°C)	Not available.
6) DIPROPYLENE GLYCOL MONOMETHYL ETHER	34590-94-8	1.5-4	TWA 100 ppm from ACGIH (United States, 1994).	0.1 kPa (@ 20°C)	Not available.

			Additional Hazards: Skin STEL 150 ppm from ACGIH (United States, 1994). Additional Hazards: Skin TWA 100 ppm from OSHA (United States, 1989). Additional Hazards: Skin STEL 150 ppm from OSHA (United States, 1989). Additional Hazards: Skin TWA 100 ppm from NIOSH (United States, 1994). Additional Hazards: Skin STEL 150 ppm from NIOSH (United States, 1994). Additional Hazards: Skin TWA 500 ppm from ACGIH (United States, 1996). STEL 750 ppm from ACGIH (United States, 1996). TWA 750 ppm from OSHA (United States, 1989). STEL 1000 ppm from OSHA (United States, 1989). TWA 250 ppm from NIOSH (United States, 1994).	24.7 kPa (@ 20°C)	Not available.
7) ACETONE	67-64-1	8-13			

Note: See section 8 for occupational exposure limits and section 11 for LC50/LD50 information.

3. Hazards Identification

Primary Hazards and Critical Effects	: WARNING! CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS: BLOOD, KIDNEYS, LUNGS, NERVOUS SYSTEM, LIVER, PERIPHERAL NERVOUS SYSTEM, GASTROINTESTINAL TRACT, RESPIRATORY TRACT, SKIN, CENTRAL NERVOUS SYSTEM, EYE, LENS OR CORNEA, NOSE, SINUSES, THROAT. FLAMMABLE LIQUID AND VAPOR. VAPOR MAY CAUSE FLASH FIRE. MAY BE HARMFUL IF INHALED, ABSORBED THROUGH SKIN OR SWALLOWED. MAY CAUSE SKIN IRRITATION. Keep away from heat, sparks and flame. Avoid prolonged contact with eyes, skin, and clothing. Do not ingest. Avoid breathing vapor or mist. Avoid contact with skin and clothing. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.
Physical/Chemical hazards	: Flammable.
Human Health Hazards	: Harmful by inhalation and in contact with skin. Irritating to skin. May cause cancer.
Environmental Hazards	: Not applicable.

4. First Aid Measures

Eye contact	: Flush with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation persists, seek medical attention.
Skin contact	: Wash with soap and water. Remove contaminated clothing and shoes. If irritation persists, seek medical attention.
Inhalation	: Remove to fresh air. If not breathing, administer artificial respiration and seek medical attention.
Ingestion	: Wash out mouth with water if person is conscious. Never give anything by mouth to an unconscious person. Do not induce vomiting unless directed by a physician. Seek immediate medical attention.

5. Fire-Fighting Measures

- Extinguishing Media** : In case of fire, use water spray (fog), foam, dry chemical, or CO₂. Use foam or all purpose dry chemicals to extinguish.
- Fire-Fighting Procedures** : Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.
- Fire/Explosion Hazards** : Flammable liquid and vapor. Vapor may cause flash fire. Vapors may accumulate in low or confined areas, travel considerable distance to source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.
- Hazardous Decomposition Products** : carbon oxides (CO, CO₂) nitrogen oxides (NO, NO₂...). Some metallic oxides.

6. Accidental Release Measures

- Personal Precautions** : Immediately contact emergency personnel. Eliminate all ignition sources. Keep unnecessary personnel away. Use suitable protective equipment (Section 8). Follow all fire fighting procedures (Section 5). Do not touch or walk through spilled material.
- Environmental Precautions and Clean-up Methods** : If emergency personnel are unavailable, contain spilled material. For small spills add absorbent (soil may be used in the absence of other suitable materials) and use a non-sparking or explosion proof means to transfer material to a sealed, appropriate container for disposal. For large spills dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal. Minimize contact of spilled material with soils to prevent runoff to surface waterways.

Note: See section 1 for emergency contact information and section 13 for waste disposal.

7. Handling and Storage

- Handling** : Keep away from heat, sparks and flame. Avoid prolonged contact with eyes, skin, and clothing. Do not ingest. Avoid breathing vapor or mist. Avoid contact with skin and clothing. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Use explosion-proof electrical (ventilating, lighting and material handling) equipment.
- Storage** : Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).
- Packaging Materials** : Use original container.

8. Exposure Controls and Personal Protection

Occupational Exposure Limits

- | | |
|--|---|
| 1) ETHYL BENZENE | TWA 100 ppm from ACGIH (United States, 1994).
STEL 125 ppm from ACGIH (United States, 1994).
TWA 100 ppm from OSHA (United States, 1989).
STEL 125 ppm from OSHA (United States, 1989).
TWA 100 ppm from NIOSH (United States, 1994).
STEL 125 ppm from NIOSH (United States, 1994). |
| 2) XYLENE ISOMERS | TWA 100 ppm from ACGIH (United States, 1996).
STEL 150 ppm from ACGIH (United States, 1996).
TWA 100 ppm from OSHA (United States, 1989).
STEL 150 ppm from OSHA (United States, 1989). |
| 3) TITANIUM DIOXIDE | TWA 10 mg/m ³ from ACGIH (United States, 1996).
TWA 10 mg/m ³ from OSHA (United States, 1989). Notes: Total
Not available. |
| 4) N-BUTYL PROPIONATE | TWA 50 ppm from ACGIH (United States, 1994). |
| 5) METHYL N-AMYL KETONE
(2-HEPTANONE) | TWA 100 ppm from OSHA (United States, 1989).
TWA 100 ppm from NIOSH (United States, 1994). |
| 6) DIPROPYLENE GLYCOL MONOMETHYL ETHER | TWA 100 ppm from ACGIH (United States, 1994). Additional Hazards: Skin
STEL 150 ppm from ACGIH (United States, 1994). Additional Hazards: Skin
TWA 100 ppm from OSHA (United States, 1989). Additional Hazards: Skin
STEL 150 ppm from OSHA (United States, 1989). Additional Hazards: Skin
TWA 100 ppm from NIOSH (United States, 1994). Additional Hazards: Skin
STEL 150 ppm from NIOSH (United States, 1994). Additional Hazards: Skin |
| 7) ACETONE | TWA 500 ppm from ACGIH (United States, 1996).
STEL 750 ppm from ACGIH (United States, 1996).
TWA 750 ppm from OSHA (United States, 1989). |

STEL 1000 ppm from OSHA (United States, 1989).
TWA 250 ppm from NIOSH (United States, 1994).

Engineering Controls : Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

Monitoring Methods and References : Not available.

Personal Protective Equipment

Respiratory System : Respirator is not needed under normal and intended conditions of use, if exposures are kept below established limits. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product, and the safe working limits of the selected respirator. If necessary Be sure to use a MSHA/NIOSH approved respirator or equivalent.

Skin and Body : Wear appropriate protective clothing to prevent skin contact.

Hands : Use chemical resistant, impervious gloves. If necessary

Eyes : Safety goggles are considered minimum protection.

9. Physical and Chemical Properties

Physical State and Appearance : Liquid.

Color : Not available.

Odor : Not available.

pH : 7

Molecular Weight : Not applicable.

Molecular Formula : Not applicable.

Melting Point : May start to solidify at -26.0999°C (-15°F) based on data for: XYLENE ISOMERS. Weighted average: -60.71°C (-77.3°F)

Boiling Point : The lowest known value is 56°C (133.1°F) (ACETONE). Weighted average: 114.36°C (237.8°F)

Evaporation Rate : The highest known value is 6.06 (ACETONE) Weighted average: 2.52 compared to Butyl Acetate

Volatility : Not available.

Vapor Density : The highest known value is 5 (Air = 1) (DIPROPYLENE GLYCOL MONOMETHYL ETHER). Weighted average: 3.36 (Air = 1)

Vapor Pressure : The highest known value is 185 mm of Hg (@ 20°C) (ACETONE). Weighted average: 68.76 mm of Hg (@ 20°C)

Density : Weighted average: 0.82 g/cm³

Specific Gravity : Weighted average: 1.05 (Water = 1)

Solubility : Easily soluble in cold water.

Partition Coefficient (LogKow) : Not available.

Viscosity : Not available.

Auto-Ignition Temperature : The lowest known value is 393°C (739.4°F) (METHYL N-AMYL KETONE (2-HEPTANONE)).

Flash Point : CLOSED CUP: 27°C (81°F).

Explosibility : Not available.

Explosion Limits : Not available.

10. Stability and Reactivity

Stability : The product is stable.

Conditions and Materials to Avoid : Slightly reactive to reactive with oxidizing agents, acids, alkalis.

Hazardous Decomposition Products :
The products of degradation are less toxic than the product itself.

Hazardous Polymerization : Not available.

11. Toxicological Information

Toxicity Data

<u>Ingredient Name</u>	<u>Test</u>	<u>Result</u>	<u>Route</u>	<u>Species</u>
1) ETHYL BENZENE	LD50	3500 mg/kg	Oral	Rat
2) XYLENE ISOMERS	LD50	4300 mg/kg	Oral	rat
	LD50	4300 mg/kg	Oral	mammal (species unspecified)
	LD50	>1700 mg/kg	Dermal	rabbit
	LDLo	50 mg/kg	Oral	human
3) METHYL N-AMYL KETONE (2-HEPTANONE)	LD50	1670 mg/kg	Oral	rat
	LD50	730 mg/kg	Oral	mouse
4) DIPROPYLENE GLYCOL MONOMETHYL ETHER	LD50	5135 mg/kg	Oral	Rat
5) ACETONE	LD50	5800 mg/kg	Oral	rat
	LD50	5800 mg/kg	Oral	Rat

Routes of Entry : Absorbed through skin. Dermal contact. Eye contact. Inhalation.

Acute Effects

Inhalation : Harmful by inhalation.
Ingestion : Harmful if swallowed.
Skin Contact : Harmful in contact with skin. Moderately irritating to the skin.
Eye Contact : Not available.

Chronic Effects

Adverse Effects : Not available.
Target Organs : Causes damage to the following organs: the nervous system.
Carcinogenic Effects : Not available.
Mutagenic Effects : Not available.
Developmental and Teratogenic Effects : Not available.
Reproductive Effects : Not available.

Other Information : Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.
 Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

12. Ecological Information

Ecotoxicity Data

<u>Ingredient Name</u>	<u>Species</u>	<u>Period</u>	<u>Result</u>
Our database contains no special consideration on the product			

Environmental Hazards : No known significant effects or critical hazards.
Environmental Fate : Not available.

13. Disposal Consideration

Waste Classification : Not available.
Waste Handling and Disposal : Waste must be disposed of in accordance with federal, state and local environmental control regulations.

14. Transport Information

United States

Shipping Description : Not available.
Packaging Instruction : Not available.
Special Provisions : Not available.
Remarks : Not available.

Canada

Shipping Description : Not available.
Regulated Limit : Not available.
Consumer Commodity : Not available.
Limited Quantity : Not available.
Special Provisions : Not available.
Remarks : Not available.

15. Regulatory Information

EU Regulations

Hazard Symbol(s) : T
Risk Phrases : R10- Flammable.
R20/21- Harmful by inhalation and in contact with skin.
R38- Irritating to skin.
R45- May cause cancer.
Safety Phrases : S2- Keep out of the reach of children.
S36- Wear suitable protective clothing.
S46- If swallowed, seek medical advice immediately and show this container or label.
S53- Avoid exposure - obtain special instructions before use.
S64- If swallowed, rinse mouth with water (only if the person is conscious).

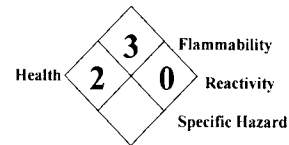
US Regulations

Federal and State Regulations : California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: TOLUENE
California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: COBALT
TSCA 12(b) one time export: METHYL ETHYL KETOXIME; ISOBUTANOL; N-BUTANOL; ACETONE
This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372.
This information must be included in all MSDSs that are copied and distributed for this material.:
XYLENE 12.5199%; MANGANESE NEODECANOATE/2-ETHYL HEXANOATE 0.34727%
CERCLA: Hazardous substances.: XYLENE: 100 lbs. (45.36 kg); ACETONE;
Clean air act (CAA) 112 accidental release prevention: ETHYL BENZENE; XYLENE ISOMERS.

HMIS (U.S.A.)

Health	*	2
Fire Hazard		3
Reactivity		0
Personal Protection		X

National Fire Protection Association (U.S.A.)



Consult your supervisor for special handling instructions.

Canadian Regulations

WHMIS : CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).
CLASS D-2A: Material causing other toxic effects (VERY TOXIC).
Canadian NPRI : Canadian NPRI: XYLENE 12.5199%; ACETONE 10.5414%
Provincial : No products were found.

16. Other Information

Remarks : Not available.

References : Not available.

Validated on 7/27/2000.

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Indicates information that has changed from previously issued version.

Notice to Reader

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