



Safety Data Sheet

Issue Date: 31-Jul-2008

Revision Date: 24-Jul-2014

Version 1

1. IDENTIFICATION

Product Identifier

Product Name **Galigan 2E**

Other means of identification

SDS # ADAMA-029

Registration Number(s) EPA Reg. No. 66222-28

Recommended use of the chemical and restrictions on use

Recommended Use EPA registered pesticide.

Details of the supplier of the safety data sheet

Manufacturer Address

Makhteshim Agan of North America, Inc. (d/b/a ADAMA)
3120 Highwoods Blvd., Suite 100
Raleigh, NC 27604

Emergency Telephone Number

Company Phone Number 1-919-256-9300
Emergency Telephone (24 hr) For fire, spill and/or leak contact INFOTRAC:
1-800-535-5053 (North America) 1-352-323-3500 (International)
For medical emergencies and health/safety inquiries, contact PROSAR:
1-877-250-9291

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: This chemical is a product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-EPA registered chemicals. Please see Section 15 for additional EPA information.

Appearance Amber liquid

Physical State Liquid

Odor Aromatic Solvent like

Classification

Reproductive toxicity	Category 1B
Aspiration toxicity	Category 1
Flammable Liquids	Category 4

Hazards Not Otherwise Classified (HNOC)

May be harmful in contact with skin
Causes mild skin irritation

Signal Word**Danger****Hazard Statements**

May damage fertility or the unborn child
 May be fatal if swallowed and enters airways
 Combustible liquid

**Precautionary Statements - Prevention**

Obtain special instructions before use
 Do not handle until all safety precautions have been read and understood
 Use personal protective equipment as required
 Keep away from heat/sparks/open flames/hot surfaces. — No smoking

Precautionary Statements - Response

If exposed or concerned: Get medical advice/attention
 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
 Do not induce vomiting
 IN CASE OF FIRE: Use CO2, dry chemical, or foam for extinction

Precautionary Statements - Storage

Store locked up
 Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other Hazards

Toxic to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
Naphtha (petroleum), heavy aromatic	64742-94-5	55.2-58.6
N-methyl-2-pyrrolidone	872-50-4	8.8-9.8

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

First Aid Measures**General Advice**

When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment. If exposed or concerned: Get medical advice/attention.

Eye Contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Consult a physician if necessary.
Inhalation	Give oxygen if breathing is difficult. If breathing has stopped, call 911, give artificial respiration.
Ingestion	Immediately call a poison center or doctor/physician. Do not induce vomiting.

Most important symptoms and effects

Symptoms	Causes mild skin irritation. Inhalation may cause irritation of respiratory tract. Prolonged breathing of vapors may cause nausea, headache, weakness and/or dizziness. Ingestion may cause irritation of the gastrointestinal tract, cramps, vomiting or diarrhea. Aspiration of material into lungs can cause chemical pneumonitis, which can be fatal.
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Indication of any immediate medical attention and special treatment needed

Notes to Physician	Treat symptomatically. If the product is ingested, probable mucosal damage may contraindicate the use of gastric lavage.
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5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Foam. Carbon dioxide (CO₂). Dry chemical. Water spray (fog).

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical

Combustible liquid. Vapors may travel to source of ignition and flash back. Vapors may form explosive mixtures with air.

Hazardous Combustion Products Chlorides. Fluorides. Nitrogen oxides (NO_x).

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	Wear protective clothing as described in Section 8 of this safety data sheet. Isolate hazard area. Keep unnecessary and unprotected personnel from entering.
Environmental Precautions	Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. See Section 13: DISPOSAL CONSIDERATIONS.

Methods and material for containment and cleaning up

Methods for Containment	Prevent further leakage or spillage if safe to do so.
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Methods for Clean-Up

Cover liquid spill with sand, earth or other non-combustible absorbent material. Sweep up and shovel into suitable containers for disposal. Dispose of in accordance with federal, state and local regulations.

7. HANDLING AND STORAGE

Precautions for safe handling**Advice on Safe Handling**

Handle in accordance with good industrial hygiene and safety practice. Use personal protection recommended in Section 8. Avoid contact with skin, eyes or clothing. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities**Storage Conditions**

Keep container tightly closed and store in a cool, dry and well-ventilated place. Keep out of the reach of children. Do not contaminate water, food, or feed by storage or disposal. Keep/store only in original container. Store at ambient conditions. Do not transport or store below 0 C/ 32 F. Protect from freezing. Store locked up.

Packaging Materials

Do not reuse container.

Incompatible Materials

Oxidizing agents. Acids. Alkalis.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

Appropriate engineering controls**Engineering Controls**

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION, PACKAGING AND USE OF THIS PRODUCT. FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS OF END USE PRODUCTS CONTAINING THIS MATERIAL, CONSULT THE SDS OR PRODUCT LABEL FOR THE END USE PRODUCT.

Individual protection measures, such as personal protective equipment**Eye/Face Protection**

Wear safety glasses with side shields (or goggles).

Skin and Body Protection

Wear appropriate clothing to prevent repeated or prolonged skin contact. Wear long-sleeved shirt, long pants, and shoes plus socks. Use chemical resistant gloves, such as P.V.C., butyl-rubber, nitrile-rubber, or neoprene.

Respiratory Protection

NIOSH-approved respirator or mask in the absence of adequate ventilation.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice. Wash face, hands and any exposed skin thoroughly after handling. Take off all contaminated clothing and wash it before reuse. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Liquid	Odor	Aromatic Solvent like
Appearance	Amber liquid	Odor Threshold	Not determined
Color	Amber		
<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>	
pH	5.0-7.0		
Melting Point/Freezing Point	Not determined		
Boiling Point/Boiling Range	Not determined		
Flash Point	71 °C / 160 °F		
Evaporation Rate	Not determined		
Flammability (Solid, Gas)	Liquid-not applicable		
Upper Flammability Limits	7% by volume		
Lower Flammability Limit	0.8% by volume		
Vapor Pressure	Not determined		
Vapor Density	Not determined		
Specific Gravity	1.08	@ 24°C/75°F	
Water Solubility	Not determined		
Solubility in other solvents	Not determined		
Partition Coefficient	Not determined		
Auto-ignition Temperature	Not determined		
Decomposition Temperature	Not determined		
Kinematic Viscosity	Not determined		
Dynamic Viscosity	10.51 mm ² /s cSt	@ 22°C	
Explosive Properties	Not determined		
Oxidizing Properties	Not determined		
Bulk Density	240 g/L (2lb/gal)		

10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal 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

Keep out of reach of children.

Incompatible Materials

Oxidizing agents. Acids. Alkalis.

Hazardous Decomposition Products

Chlorides. Fluorides. Nitrogen oxides (NO_x).

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure**Product Information**

Eye Contact Avoid contact with eyes.

Skin Contact May be harmful in contact with skin. Causes mild skin irritation.

Inhalation Avoid breathing vapors or mists.

Ingestion Do not taste or swallow.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Naphtha (petroleum), heavy aromatic 64742-94-5	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 590 mg/m ³ (Rat) 4 h
N-methyl-2-pyrrolidone 872-50-4	= 3598 mg/kg (Rat)	= 8 g/kg (Rabbit)	= 3.1 mg/L (Rat) 4 h

Information on physical, chemical and toxicological effects

Symptoms Please see section 4 of this SDS for symptoms.

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

Carcinogenicity This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Reproductive toxicity May damage fertility or the unborn child.

Aspiration hazard May be fatal if swallowed and enters airways.

Numerical measures of toxicity

Not determined

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Toxic to aquatic life with long lasting effects. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of equipment washwaters. This product is highly toxic to aquatic invertebrates, aquatic plants, wildlife, and fish. Use with care when applying in areas frequented by wildlife or adjacent to any body of water or wetland area. Do not apply when weather conditions favor drift or erosion from target areas.

Component Information

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Naphtha (petroleum), heavy aromatic 64742-94-5	2.5: 72 h Skeletonema costatum mg/L EC50	19: 96 h Pimephales promelas mg/L LC50 static 2.34: 96 h Oncorhynchus mykiss mg/L LC50 1740: 96 h Lepomis macrochirus mg/L LC50 static 45: 96 h Pimephales promelas mg/L LC50 flow-through 41: 96 h Pimephales promelas mg/L LC50		0.95: 48 h Daphnia magna mg/L EC50
N-methyl-2-pyrrolidone 872-50-4	500: 72 h Desmodesmus subspicatus mg/L EC50	832: 96 h Lepomis macrochirus mg/L LC50 static 1072: 96 h Pimephales promelas mg/L LC50 static 1400: 96 h Poecilia reticulata mg/L LC50 static		4897: 48 h Daphnia magna mg/L EC50

Persistence/Degradability

Not determined.

Bioaccumulation

Not determined.

Mobility

Chemical Name	Partition Coefficient
Naphtha (petroleum), heavy aromatic 64742-94-5	6.1
N-methyl-2-pyrrolidone 872-50-4	-0.46

Other Adverse Effects

Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods**Disposal of Wastes**

END USERS MUST DISPOSE OF ANY UNUSED PRODUCT AS PER THE LABEL RECOMMENDATIONS.

Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide spray mixture, or rinsate is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

Contaminated Packaging

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

14. TRANSPORT INFORMATION

Note

Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT

Not regulated

IATA

Not regulated

IMDG**UN/ID No**

UN3082

Proper Shipping Name

Environmentally Hazardous Substance, liquid, n.o.s. (oxyfluorfen)

Hazard Class

9

Packing Group

III

Marine Pollutant

This product contains a chemical which is listed as a marine pollutant according to IMDG/IMO

15. REGULATORY INFORMATION

International Inventories**TSCA**

All ingredients are listed or exempt from listing on Chemical Substance Inventory

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - 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

US Federal Regulations**SARA 311/312 Hazard Categories**

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

SARA 313

Chemical Name	CAS No	Weight-%	SARA 313 - Threshold Values %
N-methyl-2-pyrrolidone - 872-50-4	872-50-4	8.8-9.8	1.0

US State Regulations**California Proposition 65**

This product contains the following Proposition 65 chemicals.

Chemical Name	California Proposition 65
N-methyl-2-pyrrolidone - 872-50-4	Developmental

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
N-methyl-2-pyrrolidone 872-50-4	X	X	X

EPA Pesticide Registration Number 66222-28**EPA Statement**

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

EPA Pesticide Label

Signal Word: Warning

Causes substantial but temporary eye injury. Harmful if swallowed or absorbed through the skin. Do not get in eyes or on clothing. Avoid contact with skin. Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove contaminated clothing and wash clothes before reuse.

Difference between SDS and EPA pesticide label

Signal Word	Warning	Danger
Acute toxicity - Oral	Harmful if swallowed	N/A
Acute toxicity - Dermal	Harmful if absorbed through the skin	May be harmful in contact with skin
Skin corrosion/irritation	N/A	Causes mild skin irritation
Serious eye damage/eye irritation	Causes substantial but temporary eye injury	N/A
Reproductive toxicity	N/A	May damage fertility or the unborn child
Aspiration Hazard	N/A	May be fatal if swallowed and enters air

16. OTHER INFORMATION

<u>NFPA</u>	Health Hazards	Flammability	Instability	Special Hazards
	2	2	0	Not determined
<u>HMIS</u>	Health Hazards	Flammability	Physical Hazards	Personal Protection
	2	2	0	Not determined

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Revision Note: New format

Disclaimer

The information provided in this 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