SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKEN

Kardol Quality Products
9933 Alliance Rd
Cincinnati, OH 45242

SDS Information Number 1-800-252-7365
Telephone 1-513-933-8206
Emergency Telephone Number **1-800-424-9300**

Product Name **DIBASIC ESTER**
Product Code **172417/Formula Component**
Product Use or Description Adhesives, Plasticiser, Paint, Cleansing agents, acidic., OIL, Resins.

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance: liquid, colourless

WARNING! MAY BE HARMFUL IF INHALED. MAY BE HARMFUL IF SWALLOWED. MAY CAUSE EYE IRRITATION. CAUSES SKIN AND RESPIRATORY TRACT IRRITATION.

Potential Health Effects

Exposure Routes: Inhalation, Skin Absorbtion, Skin Contact, Eye Contact, Ingestion.

Eye Contact: Can cause eye irritation. Symptoms include stinging, tearing, redness, and swelling of eyes.

Skin Contact: Can cause severe skin irritation. Symptoms may include redness and burning of skin, and other skin damage.

Ingestion: Swallowing this material may be harmful.

Inhalation: Breathing of vapor or mist is possible. Breathing this material may be harmful. Symptoms are not expected at air concentrations below the recommended exposure limits, if applicable (see Section 8.). It is possible to breathe this material under certain conditions of handling and use (for example, during heating, spraying, or stirring).

Aggravated Medical Condition: Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material:, Skin, Upper respiratory tract.

Symptoms: Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:, stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways), difficult breathing, cough, Additional symptoms of eye exposure may include:, Irritation, Redness, blurred vision, Skin contact may provoke the following symptoms:, redness of the skin, Severe irritation, Burn, Damage.

Target Organs: Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

Carcinogenicity: This material is not listed as a carcinogen by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or the Occupational Safety and Health Administration (OSHA).

Reproductive hazard: Based on the available information, risk to the fetus from maternal exposure to this material cannot be assessed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components	CAS-No.	Concentration
Dimethyl gluterate	1119-40-0	50 - 75%
Dimethyl succinate	106-65-0	15 - 30%
Dimethyl adipate	627-93-0	10 - 30%

4. FIRST AID MEASURES

Eyes: If symptoms develop, move individual away from exposure and into fresh air. Flush eyes gently with water while holding eyelids apart. If symptoms persist or there is any visual difficulty, seek medical attention.

Skin: Remove contaminated clothing. Flush exposed area with large amounts of water. If skin is damaged, seek immediate medical attention. If skin is not damaged and symptoms persist, seek medical attention. Launder clothing before reuse.

Ingestion: Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

Inhalation: If symptoms develop, move individual away from exposure and into fresh air. If symptoms persist, seek medical attention. If breathing is difficult, administer oxygen. Keep person warm and quiet; seek immediate medical attention.

Notes to Physician

Hazards: No information available.

Treatment: No information available.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Dry chemical, Carbon dioxide (CO2), Water spray, Foam

Hazardous Combustion Products: May form:, carbon dioxide and carbon monoxide, acrid smoke and fumes.

Precaution For Fire-Fighting: Wear full firefighting turn-out gear (full Bunker gear), and respiratory protection (SCBA). DO NOT direct a solid stream of water or foam into hot, burning pools of liquid since this may cause frothing and increase fire intensity. Frothing can be violent and possibly endanger any firefighter standing too close to the burning liquid. Use water spray to cool fire exposed containers and structures
until fire is out if it can be done with minimal risk. Avoid spreading burning material with water used for cooling purposes.

NFPA Flammable and Combustible Liquids Classification: Combustible Liquid Class IIIB.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: For personal protection see section 8. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.

Environmental Precautions: Prevent spreading over a wide area (e.g. by containment or oil barriers). Do not let product enter drains. Do not flush into surface water or sanitary sewer system. Local authorities should be advised if significant spillages cannot be contained.

Methods for Clean Up: Keep in suitable, closed containers for disposal. Soak up with inert absorbent material (e.g. sand,
silica gel, acid binder, universal binder, sawdust).

Other Information: Comply with all applicable federal, state, and local regulations.

7. HANDLING AND STORAGE

Handling: Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed. Static ignition hazard can result from handling and use. Electrically bond and ground all containers, personnel and equipment before transfer or use of material. Special precautions may be necessary to dissipate static electricity for non-conductive containers. Use proper bonding and grounding during product transfer as described in National Fire Protection Association document NFPA 77.

Storage: Store in a cool, dry, ventilated area, away from incompatible substances.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines - Contains no substances with occupational exposure limit values.

General Advice: These recommendations provide general guidance for handling this product. Personal protective equipment should be selected for individual applications and should consider factors which affect exposure potential, such as handling practices, chemical concentrations and ventilation. It is ultimately the responsibility of the employer to follow regulatory guidelines established by local authorities.

Exposure Controls: Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Eye Protection: Wear chemical splash goggles when there is the potential for exposure of the eyes to liquid, vapor or mist.

Skin and Body Protection: Wear normal work clothing including long pants, long-sleeved shirts and foot covering to prevent direct contact of the product with the skin. Launder clothing before reuse. If skin irritation develops, contact your facility health and safety professional or your local safety equipment supplier to determine the proper personal protective equipment for your use.
Wear resistant gloves (consult your safety equipment supplier).
Discard gloves that show tears, pinholes, or signs of wear.

Respiratory Protection: A NIOSH-approved air-purifying respirator with an appropriate cartridge and/or filter may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits (if applicable) or if overexposure has otherwise been determined. Protection provided by air-purifying respirators is limited. Use a positive pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are not known or any other circumstances where an air-purifying respirator may not provide adequate protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	liquid
Form	liquid
Colour	colourless
Odour	mild, sweet
Boiling point/boiling range	383 - 437 °F / 195 - 225 °C
Melting point/range	Melting point/range -4 °F / -20 °C
Freezing Point	Freezing Point -40 °F / -40 °C not determined
pH	5-7
Flash point	212 - 216 °F / 100 - 102 °C
Ignition temperature	no data available
Evaporation rate	(<)0.1 butyl acetate=1
Lower explosion limit/Upper explosion limit	0.8 %(V) / 8.1 %(V)
Particle size	no data available
Vapour pressure	0.010 - 0.080 mmHg @ 68 °F / 20 °C
Relative vapour density	no data available
Density	1.089 g/cm3 @ 68 °F / 20 °C
Bulk density	No data
Water solubility	5.3 g/l 68 °F / 20 °C soluble
Solubility(ies)	no data available
Partition coefficient: n-octanol/water	no data available
log Pow	0.19 25 °C / 77 °F
Autoignition temperature	680 °F / 360 °C
Viscosity, dynamic	2.6 mPa.s @ 25 °C
Viscosity, kinematic	no data available
Solids in Solution	no data available
Decomposition temperature	no data available
Burning number	no data available
Dust explosion constant	No Data
Minimum ignition energy	no data available

10. STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: Avoid contact with:, Heat, flames and sparks., excessive heat.

Incompatable Products: Avoid contact with:, Acids, Bases, Oxidizing agents, Strong acids, alkalis.

Hazardous Decompisition Products: May form:, carbon dioxide and carbon monoxide.

Hazardous Reactions: Product will not undergo hazardous polymerization.

Thermal decomposition: No Data

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity

Acute oral toxicity - Product	LD50: > 5,000 mg/kg Species: rat

Acute oral toxicity - Components

Dimethyl gluterate	LD50: 5,000 mg/kg Species: rat
Dimethyl succinate	LD50: > 5,000 mg/kg Species: rat
Dimethyl adipate	LD50: 5,000 mg/kg Species: rat Remarks: Practically non-toxic by Ingestion

Acute inhalation toxicity

Acute inhalation toxicity - Product	LC50: >10.7 mg/l Species: rat

Acute inhalation toxicity - Components

Dimethyl gluterate	LC50: 11 mg/l Exposure time: 4 h Species: rat
Dimethyl succinate	no data available
Dimethyl adipate	no data available

Acute dermal toxicity

Acute inhalation toxicity - Product	LD50: > 2,250 mg/kg Species: rabbit

Acute dermal toxicity - Components

Dimethyl gluterate	LD50: 2,000 mg/kg Species: rat
Dimethyl succinate	LD50: > 5,000 mg/kg Species: rabbit
Dimethyl adipate	LD50: 1,000 mg/kg Species: rabbit

Acute toxicity (other routes of administration)

Acute toxicity (other routes of administration)	No Data Available

12. ECOLOGICAL INFORMATION

Biodegradability

Biodegradability - Product	87 % Method: Closed Bottle test Remarks: Readily biodegradable

Biodegradability - Components

Dimethyl gluterate	Result: Readily biodegradable. 70 % Remarks: no data available
Dimethyl succinate	aerobic Result: Readily biodegradable. 74.10 % Testing period: 3 d
Dimethyl adipate	aerobic Method: OECD Test Guideline 302A Remarks: Inherently biodegradable.

Bioaccumulation

Bioaccumulation - Product	No Data Available

Bioaccumulation - Components

	No Data Available

Ecotoxicity effects

Toxicity to fish

Toxicity to fish - Product	LC50: 7.5 mg/l Exposure time: 96 h Species: Lepomis macrochirus (Bluegill sunfish)

Toxicity to fish - Components

Dimethyl gluterate	no data available
Dimethyl succinate	LC50: 500 mg/l Exposure time: 96 h Species: Danio rerio (zebra fish) Analytical monitoring: yes Test Type: semi-static test Remarks: Mortality
Dimethyl adipate	no data available

Toxicity to daphnia and other aquatic invertebrates:

Toxicity to daphnia and other aquatic invertebrates - Product	EC50: 17 mg/l Exposure time: 48 h Species: Daphnia

Toxicity to daphnia and other aquatic invertebrates - Components

Dimethyl gluterate	LC50: 180 mg/l Exposure time: 24 h Species: Daphnia magna (Water flea) Analytical monitoring: no Method: Static Test Type: static test

Dimethyl succinate	EC50: 100 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) Analytical monitoring: yes Test Type: static test

Dimethyl adipate	EC50: 72 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) Method: OECD Test Guideline 202 Test Type: static test

Toxicity to algae

Toxicity to algae Product	EC50: 46.9 mg/l

Toxicity to algae - Components

Dimethyl gluterate	NOEC: 36 mg/l Exposure time: 72 h Species: Pseudokirchneriella subcapitata (green algae) Analytical monitoring: yes Method: Static Test Type: static test

Dimethyl succinate	EC50: 100 mg/l Exposure time: 72 h Species: Pseudokirchneriella subcapitata (green algae) Analytical monitoring: yes Test Type: static test

Dimethyl adipate	EC50: > 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Test Type: static test

Toxicity to Bacteria

No Data Available

Toxicity to Bacteria - Components

Dimethyl succinate	EC 50: 1,000 mg/l Exposure time: 3 h Test Type: Static Species: activated sludge

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods: For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact Kardol's Environmental Services at 800-252-7365.

14. TRANSPORT INFORMATION

REGULATION

ID Number / Proper Shipping Name / *Hazard Class / Subsidiary Hazards / Packing Group / Packing Group/ Marine Pollutant LTD QTY

U.S. DOT - ROAD

Not dangerous goods

U.S. DOT - RAIL

Not dangerous goods

U.S. DOT - INLAND WATERWAYS

Not dangerous goods

TRANSPORT CANADA - ROAD

Not dangerous goods

TRANSPORT CANADA - RAIL

Not dangerous goods

TRANSPORT CANADA - INLAND WATERWAYS

Not dangerous goods

INTERNATIONAL MARITIME DANGEROUS GOODS

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

Not dangerous goods

MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES

Not dangerous goods

***ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

15. REGULATORY INFORMATION

California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.	

SARA Hazard Classification

SARA 311/312 Classification

Accute Health Hazard

SARA 313 Component(s)

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Dimethyl gluterate	1119-40-0
Dimethyl succinate	106-65-0
Dimethyl adipate	627-93-0

New Jersey RTK Label Information

Dimethyl gluterate	1119-40-0
Dimethyl succinate	106-65-0
Dimethyl adipate	627-93-0

Pennsylvania RTK Label Information

Dimethyl gluterate	1119-40-0
Dimethyl succinate	106-65-0
Dimethyl adipate	627-93-0

Notification status

EU. EINECS	y (positive listing)
US. Toxic Substances Control Act	y (positive listing)
Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL). (Can. Gaz. Part II, Vol. 133)	y (positive listing)
Australia. Industrial Chemical (Notification and Assessment) Act	y (positive listing)
New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand	y (positive listing)
Japan. Kashin-Hou Law List	y (positive listing)
Korea. Toxic Chemical Control Law (TCCL) List	y (positive listing)
Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act	y (positive listing)
China. Inventory of Existing Chemical Substances	y (positive listing)

Reportable quantity - Product

US. EPA CERCLA Hazardous Substances (40 CFR 302)	1999 lbs

Reportable quantity-Components

TOLUENE	108-88-3	1000 lbs

	HMIS	NFPA
Health	1	1
Flammability	1	1
Physical hazards	0	0
Instability	0	0
Specific Hazard	0	0

16. OTHER INFORMATION

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This MSDS has been prepared by Kardol's Environmental Health and Safety Department (1-800-252-7365)