

Safety Data Sheet

KLJ GROUP
KANATOL 1 M (DMM)
SDS: DS/FG/K-07



ISSUE DATE :- 08/01/2019
REVISION DATE:- 08/01/2019
REVISION NO.: 02

GHS HCS-2012 §1910.1200

Read the entire SDS for a complete hazard assessment.

Section 1. Product and Company Identification

1.1 Product Identifiers:

Product Name: Di-Methyl Maleate

Trade Name: KANATOL- 1 M

Chemical Name: Dimethyl maleate

CAS RN 624-48-6 **EINECS Number** 210-848-5

Recommended use Laboratory chemicals; manufacturing of substances

Restricted Use: Commercial use only

1.2 Manufacturer and Supplier:

Manufacturer

KLJ PLASTICIZERS LIMITED
Sr.No.98/1, Village Silli,
Silvassa-396230 (D&NH), INDIA

Website: www.Kljindia.com
Phone: +91 9909996425 /426/ 427/ 428

E-mail: silvassa2002@kljindia.com

Distributor

R. E. Carroll, Inc.
1570 North Olden Avenue
Trenton, NJ 08638-3204, USA
Responsible Party: John Boruta
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E-mail: johnb@recarroll.com

Website: www.recarroll.com

Phone: 609-695-6211

Fax: 609-695-0102

Email: johnb@recarroll.com

1.5 Emergency telephone number:

In the US: For a transport accident or leak, fire or major spill, call CHEMTREC, (800) 424-9300.
For International: CHEMTREC assistance, call 1-703-527-3887 (collect calls accepted).

Section 2. Hazards Identification

2.1 Globally Harmonized System (GHS) Hazard Classification:

OSHA Classification in accordance with 29 CFR 1910 (OSHA HCS): hazardous.

GHS Classification: hazardous.

This SDS meets the requirements of GHS Revision 3.

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GHS classification: Classification of the substance or mixture

Acute toxicity, Oral (Category 4), H302

Eye irritation (Category 2), H319

Skin sensitization (Category 1), H317

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

Specific target organ toxicity (repeated exposure) Dermal (Category 2), Skin, H373

Acute aquatic toxicity (Category 2), H401 Toxic to aquatic life.

2.2 Label elements including precautionary:



Symbol:

Signal word:

Danger

Hazard Statement:

H302 Harmful if swallowed.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation

H335 May cause respiratory irritation.

H373 May cause damage to organs (Skin) through prolonged or repeated exposure in contact with skin.

H401 Toxic to aquatic life.

Precautionary Statements

Prevention:

Wear protective gloves/protective clothing/eye protection/face protection.

Wash face, hands and any exposed skin thoroughly after handling.

Do not breathe dust/fume/gas/mist/vapors/spray.

Avoid release to the environment.

Response:

If exposed or concerned: Get medical advice/attention.

If in eyes: Immediately flush eyes thoroughly with water for several minutes. Remove contact lenses after one to two minutes and continue flushing for several more minutes. If redness, itching or burning sensation develops, seek medical attention.

If on skin: Wash with plenty of soap and water. If irritation or rash occurs: Get medical advice/attention.

If inhaled: Remove victim to fresh air. If a cough or other respiratory symptoms develop, consult medical personnel.

If swallowed: DO NOT INDUCE VOMITING. Never give anything by mouth to an unconscious person.

Gently wipe or rinse the inside of the mouth with water. Sips of water can be given. If symptoms persist, contact a poison control center, emergency room, or physician for treatment information.

Storage:

Store in accordance with local, regional, and national regulations. Store locked up.

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Disposal:

Dispose of contents/container in accordance with local, regional, and national regulations.

2.3 Other hazards which are not included in the classification criteria: None.

Section 3. Composition/Information on Ingredients

Chemical Name	CAS No.	EINECS No.	Concentration
Dimethyl maleate	624-48-6	210-848-5	<= 100% (wt)

Section 4. First-Aid Measures

General advice: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

4.1 Inhalation:

Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen and continue to monitor. Consult medical attention.

4.2 Skin contact:

Wash skin with plenty of soap and water. If symptoms persist, seek medical attention. Wash contaminated clothing before use.

4.3 Eye contact:

Immediately flush eyes thoroughly with water for several minutes. Remove contact lenses after one to two minutes and continue flushing for several more minutes. If redness, itching or burning sensation develops, seek medical attention.

4.4 Ingestion:

DO NOT INDUCE VOMITING. Never give anything by mouth to an unconscious person. Gently wipe or rinse the inside of the mouth with water. Sips of water can be given. If symptoms persist, contact a poison control center, emergency room, or physician for treatment information.

4.5 Acute and delayed symptoms/effects:

Eye Contact: Exposure may cause irritation to eyes.

Skin Contact: Irritation and skin sensitization.

Ingestion: GI disturbance.

Inhalation: Irritation to respiratory tract.

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Chronic health effects: Respiratory and skin irritation, dermatitis.
Relevant routes of exposure: Eye, skin, inhalation.

4.6 Indication of immediate medical attention and notes for physicians:

Persons with pre-existing skin, eye, or respiratory conditions may be at an increased risk from the irritant properties of this material. Attending physician should treat exposed patients symptomatically.

Section 5. Fire-Fighting Measures

5.1 Extinguishing media:

Suitable extinguishing media:

Combustible liquid. Hand held dry chemical or carbon dioxide extinguishers may be used for small fires.

Unsuitable extinguishing media:

For this product, no limitations of extinguishing agents are given. Forceful application of fire extinguishing agents or water spray may spread burning material.

5.2 Special hazards arising from the chemical:

Unusual fire and explosion hazards: None.

Hazardous Combustion Products:

During a fire, smoke may contain the original material in addition to combustion products of varying composition, which may be toxic and/or irritating.

5.3 Special protective equipment and precautions for firefighters:

Fire Fighting Procedures:

Keep personnel away. Isolate fire and deny unnecessary entry. Do not apply direct water stream. Use fine water spray or foam. Cool surroundings with water to localize fire zone.

Special Protective Equipment for Firefighters:

Wear positive-pressure self-contained breathing apparatus (SCBA) and protective firefighting clothing (includes firefighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

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Section 6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures:

Use personal protective equipment. Remove all sources of ignition. Avoid breathing vapors, mist, or gas. Avoid skin and eye contact. Evacuate personnel to safe areas. Spilled material may cause a slipping hazard. Use appropriate safety equipment. See Section 8 for information on personal protection equipment.

6.2 Environmental precautions and protective procedures:

Prevent further leakage or spillage if safe to do so. Do not let product enter drains, sewers, waterways, and/or groundwater.

6.3 Methods and material for containment and cleaning up:

Contain spilled material if possible. Sweep up using non-sparking tools. Collect in suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

6.4. Reference to Other Sections See Heading 8, Exposure Controls and Personal Protection.

Section 7. Handling and Storage

7.1 Precautions for safe handling:

Combustible liquid. Avoid contact with high temperature objects, spark, and strong oxidizing agents. Use with local exhaust ventilation. Do not eat, drink, and/or smoke in work areas. Wash hands after use. Remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for safe storage (including any incompatibilities):

Store in cool place. Avoid heat and ignition sources. Keep container tightly closed in a dry and well-ventilated place. Do not store together with oxidizing agents or alkalis. Protect against UV-solarization/sunlight. Store in accordance with good manufacturing practices.

Section 8. Exposure Controls and Personal Protection

Consult with a Health and Safety Professional for specific selections.

8.1 Control parameter:

OCCUPATIONAL EXPOSURE LIMITS:

No values for this material are required.

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Appropriate engineering controls:

Use general or local exhaust ventilation to minimize airborne concentrations.

8.2 Personal protective equipment:

Eye protection:
Safety glasses, chemical goggles, or full-face respirator.

Body protection: Wear clean body-covering clothing to prevent skin exposure.

Hand protection:
Contact should be minimized. Protective gloves are recommended when skin contact cannot be avoided. Use insulated gloves when handling molten materials. Selection of gloves will depend on the task.

Respiratory protection:
Concentration in air determines the level of respiratory protection needed. Use only NIOSH certified respiratory protection. If there is the possibility of an uncontrolled release, or exposure levels are unknown, then a positive pressure-demand full-face supplied air respirator with escape bottle or SCBA, or a NIOSH-approved (or equivalent) full-face piece airline respirator in the positive pressure mode with emergency escape provisions should be used.

Other:
Remove contaminated clothing and wash before reuse. For non-fire emergencies, respiratory protection may be necessary and wear appropriate protective clothing to avoid contact with material. Have eyewash station and safety shower in work area. Do not consume or store food in the work area. Wash hands before smoking or eating.

Section 9. Physical and Chemical Properties

<i>Section 9 Physical and Chemical Properties List</i>	
<i>Appearance</i>	
<i>Physical state</i>	Liquid
<i>Color</i>	Colorless
<i>Odor</i>	Slight characteristic
<i>Odor Threshold</i>	NA
<i>Auto-ignition Temperature</i>	330 °C at 992.0 hPa
<i>Decomposition Temperature</i>	> 393 °C
<i>Density</i>	1.1 g/cm ³
<i>Evaporation Rate</i>	ND
<i>Flammability (solid, gas)</i>	ND
<i>Flash point:</i>	91 °C (196 °F)
<i>Initial Boiling Point and Boiling Range</i>	204-205 °C (399-401 °F)
<i>pH</i>	NA

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Melting Point Softening Point/freezing point	-19 °C (-2 °F)
Partition coefficient n-octanol/water	log Pow: 0.52 at 35 °C
Relative Density	1.152 g/cm ³ at 25 °C
Solubility (water);	77.9 g/l at 20 °C - OECD Test Guideline 105 - soluble
Solubility (other organic solvents)	ND
TDS (Total Dissolved Solids)	NA
Upper/lower Flammability or Explosive Limits	ND
Vapor Density	ND
Vapor Pressure	ND
Viscosity Dynamic	ND
Molecular Weight	391

NA = Not applicable ND = No data

Remarks: The above information is not intended for use in preparing product specifications, Contact supplier before writing specifications.

Section 10. Stability and Reactivity

- 10.1 Chemical stability:** Stable under normal temperature conditions and recommended use.
- 10.2 Possibility of hazardous reactions:** No hazardous reactions if stored and handled as prescribed/indicated.
- 10.3 Conditions to avoid:** Avoid high temperatures. Exposure to elevated temperatures can cause decomposition. Avoid moisture.
- 10.4 Incompatible materials:** Strong oxidizing agents or bases, copper alloys or reducing agents.
- 10.5 Hazardous decomposition products:**
Decomposition products including Carbon dioxide and Carbon monoxide, and other products of incomplete combustion depending upon temperature, air supply and the presence of other materials. Processing may release fumes and other decomposition products. Fumes can be irritating.
- 10.6 Hazardous Polymerization:** Will not polymerize.

Section 11. Toxicological Information

11.1 Information on the likely routes of exposure: Inhalation, ingestion, skin and eye contact.

11.2 Information on toxicological effects:

Acute toxicity:

Acute Dermal LD-50:- (Rabbit): 610 mg/kg (Dimethyl maleate)

Acute oral LD 50 1410 mg/kg (rat)

Skin corrosion/irritation

Skin – Rabbit (Dimethyl maleate) Result: No skin irritation - 4 h (OECD Test Guideline 404)

Serious eye damage/eye irritation

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Eye irritation (Dimethyl maleate)

Respiratory or skin sensitization

Guinea pig (Dimethyl maleate)

Germ cell Mutagenicity

Ames test (Dimethyl maleate) S. typhimurium Result: negative

Mutagenicity (micronucleus test)(Dimethyl maleate) Mouse - male and female Result: negative

GHS Classification:

Skin corrosion/irritation:	GHS Classification: Classified.
Serious eye damage/irritation:	GHS Classification: Classified.
Inhalation:	GHS Classification: Classified.
Respiratory or skin sensitization:	GHS Classification: Classified.
Germ Cell Mutagenicity:	GHS Classification: Not Classified.
Reproductive Toxicity:	GHS Classification: Not Classified.
Teratogenicity:	GHS Classification: Not Classified.

Specific target organ toxicity (STOT):

STOT-single exposure: The substance or mixture is classified as specific target organ toxicant, single exposure (lungs).

STOT-repeated exposure: The substance or mixture is classified as specific target organ toxicant, repeated exposure (skin).

11.3 Symptoms related to the physical, chemical, and toxicological characteristics

Adverse symptoms may include the following

Eye contact	pain or irritation, damage watering redness
Inhalation	cough, sore throat, irritation
Skin contact:	irritation, redness, dermatitis.
Ingestion:	gastrointestinal disturbance.

11.4 Chronic Exposure: Repeated or prolonged exposure may produce dermatitis.

11.5 Aspiration Hazard Not applicable.

11.6 Carcinogenicity:

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC, NTP,ACGIH, or OSHA.

Other Information

11.7 Repeated dose toxicity Rat - Dermal - Subacute toxicity - NOAEL : 60 mg/kg

11.8 RTECS: EM6300000

Burning sensation, cough, wheezing, laryngitis, shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

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To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Section 12. Ecological Information

12.1 Toxicity Data

Acute toxicity –Fish:-

LC-50 (Fathead Minnow, 96 h): > 0.67 mg/l (limit of solubility in fresh water)

NOEC: (Fathead Minnow, 96 h): > 0.67 mg/l (limit of solubility in fresh water)

LC-50 (Rainbow Trout, 96 h): > 0.32 mg/l (limit of solubility in fresh water)

NOEC: (Rainbow Trout, 96 h): > 0.32 mg/l (limit of solubility in fresh water)

LC-50 (Sheepshead Minnow, 96 h): > 0.17 mg/l (limit of solubility in fresh water) Aquatic invertebrates:-

LC-50 (Water Flea, 96 h): > 0.16 mg/l (limit of solubility in fresh water)

NOEC: (Water Flea, 96 h): > 0.16 mg/l (limit n fresh water)

12.2 Mobility: Expected to be relatively immobile in soil.

12.3 Aquatic and terrestrial ecotoxicity: acutely toxic.

12.4 Persistence and degradability:

Biodegradability aerobic - Exposure time 28 d

Result: 96.7 % -(OECD Test Guideline 301B)

Readily biodegradable

12.5 Bioaccumulative potential: Expected to be slight.

12.6 Other: No other information.

Section 13. Disposal Considerations

13.1 Disposal methods:

Do not dump into any sewers, on the ground or into any body of water. All disposal practices must comply with all federal, state, and local laws and regulations. Offer to a licensed disposal company.

Container disposal:

Empty container retains product residue. Observe all hazard precautions. Do not distribute, make available, furnish or reuse empty container except for storage and shipment of original product. Remove all product residue. Puncture or otherwise destroy empty container and dispose of in a permitted facility.

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Section 14. Transport Information

US DOT, IMDG, IATA

14.1 UN number: UN 2810

14.2 UN proper shipping name: *TOXIC LIQUID, ORGANIC, N.O.S. (Dimethyl maleate)*

14.3 Transport hazard class: Class 9

14.4 Packing Group: III

14.5 Marine Pollutant (Yes/No): No

14.6 Special precaution: None

Section 15. Regulatory Information

U.S. Regulations

15.1 US TSCA inventory:

All chemical substances in this product comply with all rules or orders under TSCA. All intentionally added ingredients either are listed on the TSCA Inventory list or exempt from listing.

15.2 Section 311/312 Hazard Categories

Acute Hazard:	Yes
Chronic Hazard:	Yes
Fire Hazard:	Yes
Reactive Hazard:	No
Sudden Pressure Release:	No

15.3 CERCLA Hazardous Substance SARA Section 304 Release Reporting:

<u>CAS Number</u>	<u>Threshold</u>	<u>Min</u>	<u>Max</u>
None			

15.4 SARA Section 302 Extremely Hazardous Substances:

Component(s)/ <u>CAS Number</u>	Concentration	<u>Min</u>	<u>Max</u>
None			

15.5 SARA Section 313 Toxic Chemicals:

Component(s)/ <u>CAS Number</u>	Reporting <u>Threshold</u>	Concentration <u>Min</u>	<u>Max</u>
None			

15.6 California Proposition 65: This product is not known to contain chemical(s) known to the State of California to cause cancer and/or reproductive harm.

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15.7 Pennsylvania Worker and Community Right To Know Act:

Dimethyl maleate CAS RN: 624-48-6

15.8 New Jersey Worker and Community Right To Know Act

Dimethyl maleate CAS RN: 624-48-6

15.9 Massachusetts Right To Know Act:

Dimethyl maleate CAS RN: 624-48-6

15.10 International Regulations:

Canadian Regulations:

WHMIS Statement: This product has been classified in accordance with the hazard criteria of the *Controlled Products Regulations* and the SDS contains all the information required by the *Controlled Products Regulations*. This product is classified as controlled in accordance with the Canadian Controlled Products Regulations.

International Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS/NICNAS)	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)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS; MITI No. 2-608)	No
Korea	Existing Chemicals List (KECI)	Yes
New Zealand	New Zealand Inventory of Chemicals (NZIoC)	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substance (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes
Switzerland	Environmental Hazardous Substance list in Switzerland	Not known

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

German Water Hazard Classification: W1

REACH (Registration, Evaluation, Authorization & Restriction of Chemicals) Candidate List:

Substance is NOT of very high concern (SVHC) included in the candidate list for authorization.

Annex XIV (Authorization List):

Substance is NOT included in:

Candidate List: Substance of very high concern (SVHC) and the candidate list for authorization.

Authorization List: Substance of very high concern requiring authorization before it is used (Annex XIV of REACH).

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Section 16. Other Information

16.1 NFPA and HMIS Hazard Ratings:

We assigned NFPA and HMIS ratings to this product based on the hazards of its ingredient(s). Because the customer is most aware of the application of the product, the customer must ensure that the proper personal protective equipment (PPE) is provided consistent with information contained in the product SDS. This information is intended solely for the use of individuals trained in the particular hazard rating system.

Key: 0 = least, 1 = slight, 2 = moderate, 3 = high, 4 = extreme

NFPA (National Fire Protection Association) - Classification

Health	2 moderate
Flammability	1 slight
Instability or Reactivity	0 least
Special Hazards	none

HMIS® [Hazardous Materials Identification System (Paint & Coating)] - Classification

Health	2 moderate * chronic
Flammability	1 minimal
Reactivity	0 minimal

NFPA, HMIS® rating involves data interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, all the information contained in this SDS must be considered. This information is supplied solely for the use of individuals trained in the particular hazard rating system.

16.2 Revision information:

Date of the previous revision: 01/04/2019 (Version 01)
Date of this revision: 08/01/2019 (Version 2.0)
Revision summary: Revised GHS/OSHA compliant SDS

16.3 Training advice: Provide adequate information, instruction and training for operators.

16.4 Key or legend to abbreviations and acronyms used in the safety data sheet:

ACGIH	American Conference of Governmental Industrial Hygienists
BEI	Biological Exposure Index
OEL	Occupational Exposure Limit
PEL	Permissible Exposure Limit
ppm	parts per million
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TWA	Time Weighted Average

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REL	Recommended exposure limits from NIOSH
NIOSH	National Institute for Occupational Safety and Health
Action Level	An exposure value set by OSHA that is lower than the PEL that will trigger the need for activities such as exposure monitoring and medical surveillance.

16.5 Declare to reader:

This Safety Data Sheet conforms to US GHS (Revision 3) Hazcom 2012.
The opinions expressed herein are those of qualified experts within R.E. Carroll, Inc. We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and of these opinions and the conditions of use of this product are not within the control of R.E. Carroll, Inc., it is the user's obligation to determine the conditions of safe use of the products.

END OF SDS
