

SAFETY DATA SHEET

MACROCLEAN 204

SECTION 1. IDENTIFICATION

Product name : MACROCLEAN 204
Chemical name : Dimer acid

Manufacturer or supplier's details

Company name of supplier : Hot Melt Technologies, Inc.
Address : 1723 W Hamlin Road
Rochester Hills, MI 48309

For additional emergency, health, safety, or regulatory information, call 248-853-2011 during business hours.

Recommended use of the chemical and restrictions on use

Recommended use : Raw material

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Not a hazardous substance or mixture.

GHS label elements

Not a hazardous substance or mixture.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance
Substance name : Dimer acid

CAS-No. : Proprietary

Hazardous ingredients

No hazardous ingredients

The specific chemical identity and/or exact percentage of composition for one or more ingredients has been withheld as a trade secret.

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SECTION 4. FIRST AID MEASURES

If inhaled	:	If breathed in, move person into fresh air. If symptoms persist, call a physician.
In case of skin contact	:	In case of contact, immediately flush skin with soap and plenty of water. If symptoms persist, call a physician.
In case of eye contact	:	In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
If swallowed	:	If large quantities of this material are swallowed, call a physician immediately.
Most important symptoms and effects, both acute and delayed	:	None known.

SECTION 5. FIRE-FIGHTING MEASURES

Flammable properties

Flash point	:	545 °F / 285 °C Method: open cup
Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during fire fighting	:	Do not use a solid water stream as it may scatter and spread fire.
Specific extinguishing methods	:	Standard procedure for chemical fires.
Further information	:	Prevent fire extinguishing water from contaminating surface water or the ground water system. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Ensure adequate ventilation. Use personal protective equipment.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
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Advice on safe handling	:	Handle in accordance with good industrial hygiene and safety practice.
Conditions for safe storage	:	Store in original container. Keep container tightly closed in a dry and well-ventilated place.
Materials to avoid	:	No special restrictions on storage with other products.
Further information on storage stability	:	Stable under recommended storage conditions.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required.

Hand protection

Remarks : For prolonged or repeated contact use protective gloves.
Eye protection : Safety glasses with side-shields
Skin and body protection : Impervious clothing

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	viscous liquid
Color	:	yellow
Odor	:	slight
Odor Threshold	:	No data available
pH	:	Not applicable
Pour point	:	-0.40 - 10 °F / -18 - -12 °C
Boiling point	:	Not applicable Decomposes below the boiling point.
Flash point	:	545 °F / 285 °C Method: open cup
Flammability (solid, gas)	:	The product is not flammable.
Self-ignition	:	Not applicable
Vapor pressure	:	estimated 0.000004 hPa
Density	:	0.94 g/ml (77 °F / 25 °C)
Solubility(ies)		
Water solubility	:	< 0.12 mg/l below detection limit (68 °F / 20 °C) pH: 2

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Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: log Pow: 1 - 2.5 pH: 2
Decomposition temperature	: No data available
Viscosity	
Viscosity, dynamic	: 5,800 mPa.s (77 °F / 25 °C)
Viscosity, kinematic	: No data available
Explosive properties	: Not explosive
Oxidizing properties	: The substance or mixture is not classified as oxidizing.
Surface tension	: 33.3 mN/m, 75 °F / 24 °C

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No data available
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: Hazardous polymerization does not occur. No dangerous reaction known under conditions of normal use.
Conditions to avoid	: None known.
Incompatible materials	: Strong oxidizing agents
Hazardous decomposition products	: In case of fire hazardous decomposition products may be produced such as: Carbon oxides

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity	: LD50 (Rat, male and female): > 5000 mg/kg Method: OECD Test Guideline 401 GLP: yes Remarks: No mortality observed at this dose.
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Acute inhalation toxicity	: Remarks: No data available
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Acute dermal toxicity	: Remarks: No data available
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Skin corrosion/irritation

Product:

Species	: Rabbit
Method	: OECD Test Guideline 404
Result	: Not irritating
GLP	: yes
Remarks	: Based on available data, the classification criteria are not met.

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Serious eye damage/eye irritation

Product:

Species : Rabbit
Result : Not irritating
Method : OECD Test Guideline 405
GLP : yes
Remarks : Based on available data, the classification criteria are not met.

Respiratory or skin sensitization

Product:

Test Type : Maximization Test
Species : Guinea pig
Method : OECD Test Guideline 406
Result : Did not cause sensitization on laboratory animals.
GLP : yes
Remarks : Information given is based on data obtained from similar substances.

Germ cell mutagenicity

Product:

Genotoxicity in vitro : Test Type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: Mutagenicity (Escherichia coli - reverse mutation assay)
Result: negative
GLP: yes
Remarks: Information given is based on data obtained from similar substances.

Test Type: In vitro gene mutation study in mammalian cells
Test system: mouse lymphoma cells
Metabolic activation: with and without metabolic activation
Method: EC B17 (OECD 476): Mammalian Cell Gene Mutation Test
Result: negative
GLP: yes
Remarks: Information given is based on data obtained from similar substances.

Test Type: Chromosome aberration test in vitro
Test system: Human lymphocytes
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative
Remarks: Information given is based on data obtained from similar substances.

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Carcinogenicity

Product:

Remarks : This information is not available.

Reproductive toxicity

Product:

Reproductive toxicity - Assessment : No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments., Information given is based on data obtained from similar substances.

STOT-single exposure

Product:

Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT-repeated exposure

Product:

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity

Product:

Species : Rat, male
NOAEL : estimated 741 mg/kg
Application Route : Oral
Exposure time : 13 weeks
Method : OECD Test Guideline 408
GLP : yes
Remarks : Information given is based on data obtained from similar substances.

Species : Rat, female
NOAEL : estimated 855 mg/kg
Application Route : Oral
Exposure time : 13 weeks
Method : OECD Test Guideline 408
GLP : yes
Remarks : Information given is based on data obtained from similar substances.

Species : Rat, male and female
NOAEL : > 1,000 mg/kg
Application Route : Oral
Exposure time : 13 weeks
Method : OECD Test Guideline 408
GLP : yes

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Remarks : Information given is based on data obtained from similar substances.

Aspiration toxicity

Product:

No aspiration toxicity classification

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): , > 350 mg/ml
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203
Remarks: No toxicity at the limit of solubility.

LC50 (Cyprinus carpio (Carp)): , > 1000 mg/l
Exposure time: 48 h
Test Type: static test

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): , > 1000 mg/l
Exposure time: 24 h
Test Type: static test
Remarks: Information given is based on data obtained from similar substances.
No toxicity at the limit of solubility.

EL50 (Daphnia magna (Water flea)): , > 1000 mg/l
Exposure time: 48 h
Test Type: static test
Remarks: Information given is based on data obtained from similar substances.
No toxicity at the limit of solubility.

LC50 (Acartia tonsa): , > 1000 mg/ml
Exposure time: 48 h
Test Type: static test
Remarks: Information given is based on data obtained from similar substances.

Toxicity to algae : EL50 (Desmodesmus subspicatus (green algae)): >1000 mg/l
End point: Growth rate
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
Remarks: Information given is based on data obtained from similar substances.

EL50 (Desmodesmus subspicatus (green algae)): >1000 mg/l

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End point: Biomass
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
Remarks: Information given is based on data obtained from similar substances.

(Skeletonema costatum (marine diatom)): > 1000 mg/l
Exposure time: 72 h
Test Type: static test
Method: ISO 10253
Remarks: Information given is based on data obtained from similar substances.

(Skeletonema costatum (marine diatom)): > 1000 mg/l
End point: Growth rate
Exposure time: 72 h
Test Type: static test
Method: ISO 10253
Remarks: Information given is based on data obtained from similar substances.

Toxicity to fish (Chronic toxicity) : NOEC (Danio rerio (zebra fish)): >=0.85 mg/l
Exposure time: 28 d
Test Type: flow-through test
Method: ISO/DIS 10229-1
Remarks: Information given is based on data obtained from similar substances.
No toxicity at the limit of solubility.

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : Remarks: No data available

Ecotoxicology Assessment

Acute aquatic toxicity : No toxicity at the limit of solubility.

Chronic aquatic toxicity : No toxicity at the limit of solubility.

Persistence and degradability

Product:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: < 10 %
Method: OECD Test Guideline 301B

Result: Not readily biodegradable.
Biodegradation: 3.8 %
Method: ASTM D 5864-95

Result: Not readily biodegradable.
Biodegradation: < 7 %
Method: OECD Test Guideline 301B

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Result: Not readily biodegradable.
Biodegradation: < 9 %
Method: OECD Test Guideline 301D

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of in accordance with local regulations.
Contaminated packaging : Empty remaining contents.
Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14. TRANSPORT INFORMATION

International Regulations

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

Special precautions for user

Remarks : Not regulated for transport in accordance with DOT, TDG, IMDG, and IATA regulations.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : No SARA Hazards

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.

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US State Regulations

Pennsylvania Right To Know

Dimer Acid

61788-89-4

New Jersey Right To Know

Dimer Acid

61788-89-4

California Prop. 65

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

The ingredients of this product are reported in the following inventories:

REACH	: This substance has been registered according to Regulation (EU) No. 1907/2006 (REACH).
TSCA	: All chemical substances in this product are listed on the TSCA Inventory.
DSL	: All components of this product are on the Canadian DSL
AICS	: On the inventory, or in compliance with the inventory
ENCS	: On the inventory, or in compliance with the inventory
ISHL	: On the inventory, or in compliance with the inventory
KECI	: On the inventory, or in compliance with the inventory
PICCS	: On the inventory, or in compliance with the inventory
IECSC	: On the inventory, or in compliance with the inventory
TCSI	: On the inventory, or in compliance with the inventory

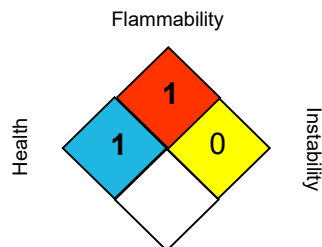
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SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS II:

HEALTH	1
FLAMMABILITY	1
Reactivity	0

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG -

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United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

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The information provided in this Material 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.

US / Z8