

SAFETY DATA SHEET

Section 1. Identification

Chemical name	Dibasic Ester
Other means of identification	Not available.
Product type	Liquid.
Supplier's details	ITW Trans Tech 475 N. Gary Avenue Carol Stream, IL 60188 USA
Emergency telephone number (with hours of operation)	630-752-4000 www.itwtranstech.com InfoTrac 352-323-3500

Section 2. Hazards identification

OSHA/HCS status	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture	UN GHS Classification Version 4 ACUTE TOXICITY: ORAL - Category 5 ACUTE TOXICITY: SKIN - Category 5 AQUATIC HAZARD (ACUTE) - Category 3

GHS label elements

Signal word	Warning
Hazard statements	May be harmful if swallowed. May be harmful in contact with skin. May cause eye irritation. May cause skin irritation. Harmful to aquatic life.

Precautionary statements

General	Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.
Prevention	Wear protective gloves/protective clothing/eye protection/face protection. Avoid release to the environment.
Response	IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. IF ON SKIN: Call a POISON CENTER or physician if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Storage	Not applicable.
Disposal	Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazards not otherwise classified	Repeated or prolonged inhalation of vapors may lead to temporary blurred or double vision.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture.
Chemical name : Reaction mass of dimethyl adipate and dimethyl glutarate and dimethyl succinate
Other means of identification : Not available.

CAS number/other identifiers

CAS number : Mixture.
Product code : Not available.

Ingredient name	%	CAS number
dimethyl glutarate	59 - 73	1119-40-0
dimethyl succinate	17 - 25	106-65-0
dimethyl adipate	10 - 14	627-93-0
methanol	0 - 0.2	67-56-1

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Ingestion : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : May cause eye irritation.

Inhalation : Repeated or prolonged inhalation of vapors may lead to temporary blurred or double vision.

Skin contact : May cause skin irritation.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : redness

Inhalation : Adverse symptoms may include the following: blurred or double vision

Skin contact : Adverse symptoms may include the following: irritation

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

Section 4. First aid measures

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Reaction mass of dimethyl adipate and dimethyl glutarate and dimethyl succinate	Ascend Workplace Exposure Guideline (United States). TWA: 10 mg/m ³ 8 hours.

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.

If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Recommended: 1 - 4 hours (breakthrough time): neoprene rubber
< 1 hour (breakthrough time): nitrile rubber

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. 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.

Recommended: Approved/certified respirator with organic vapor cartridge.

Section 8. Exposure controls/personal protection

Personal protective equipment (Pictograms) :



Section 9. Physical and chemical properties

Appearance

Physical state	: Liquid.
Color	: Colorless.
Odor	: Sweet.
Odor threshold	: Not available.
pH	: 6.9
Melting point	: -55°C (-67°F)
Boiling point	: 195 to 216°C (383 to 420.8°F)
Flash point	: Closed cup: 99°C (210.2°F) [Pensky-Martens.]
Evaporation rate	: Not available.
Flammability (solid, gas)	: Not applicable
Lower and upper explosive (flammable) limits	: Not available.
Vapor pressure	: 0.0057 kPa (0.043 mm Hg) [room temperature] 0.071 kPa (0.53 mm Hg) [50°C]
Vapor density	: Not available.
Relative density	: 1.06
Solubility	: Not available.
Solubility in water	: 33.56 g/l
Partition coefficient: n-octanol/water	: 1
Auto-ignition temperature	: >400°C (>752°F)
Decomposition temperature	: Not available.
Viscosity	: Dynamic (room temperature): 3 to 5 mPa·s (3 to 5 cP)

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Hazardous reactions or instability may occur under certain conditions of storage or use.
Conditions to avoid	: No specific data.
Incompatible materials	: No specific data.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Reaction mass of dimethyl adipate and dimethyl glutarate and dimethyl succinate	LC50 Inhalation Dusts and mists	Rat - Male, Female	>11 mg/l	4 hours Nose Only
	LD50 Dermal	Rat - Male, Female	>2000 mg/kg	-
	LD50 Oral	Rat - Male, Female	>2000 mg/kg	-
	LD50 Oral	Rat - Female	>5000 mg/kg	-

Conclusion/Summary : Very low toxicity to humans or animals.
 UN GHS Classification Category 5 Oral
 UN GHS Classification Category 5 Dermal

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Reaction mass of dimethyl adipate and dimethyl glutarate and dimethyl succinate	Skin - Erythema/Eschar	Rabbit	0	24 hours	14 days
	Skin - Erythema/Eschar	Rabbit	0	48 hours	14 days
	Skin - Erythema/Eschar	Rabbit	0	72 hours	14 days
	Skin - Edema	Rabbit	0	24 hours	14 days
	Skin - Edema	Rabbit	0	48 hours	14 days
	Skin - Edema	Rabbit	0	72 hours	14 days
	Eyes - Edema of the conjunctivae	Rabbit	0	1 hours	1 days

Conclusion/Summary

Skin : Non-irritant to skin.
Eyes : Non-irritating to the eyes.
Respiratory : May cause respiratory irritation.

Sensitization

Product/ingredient name	Route of exposure	Species	Result
Reaction mass of dimethyl adipate and dimethyl glutarate and dimethyl succinate	skin	Mouse	Not sensitizing

Conclusion/Summary

Skin : Non-sensitizer to skin.

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Reaction mass of dimethyl adipate and dimethyl glutarate and dimethyl succinate	473 <i>In vitro</i> Mammalian Chromosomal Aberration Test	Experiment: In vitro	Positive
	-	Subject: Mammalian-Human Metabolic activation: With Experiment: In vitro Subject: Bacteria	Negative
	473 <i>In vitro</i> Mammalian Chromosomal Aberration Test	Experiment: In vitro	Negative

Section 11. Toxicological information

	474 Mammalian Erythrocyte Micronucleus Test	Metabolic activation: Without Experiment: In vivo Subject: Mammalian-Animal	Negative
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Carcinogenicity

Not available.

Conclusion/Summary : No results available.

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
Reaction mass of dimethyl adipate and dimethyl glutarate and dimethyl succinate	Negative	Negative	-	Rat - Male, Female	Inhalation: 1000 mg/m ³	22 weeks; 6 hours per day

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : May cause eye irritation.
Inhalation : Repeated or prolonged inhalation of vapors may lead to temporary blurred or double vision.
Skin contact : May cause skin irritation.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : redness
Inhalation : Adverse symptoms may include the following: blurred or double vision
Skin contact : Adverse symptoms may include the following: irritation
Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.
Potential delayed effects : blurred or double vision

Long term exposure

Potential immediate effects : Not available.
Potential delayed effects : blurred or double vision

Section 11. Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
Reaction mass of dimethyl adipate and dimethyl glutarate and dimethyl succinate	Sub-chronic NOEL Dermal	Rat - Male, Female	1000 mg/kg	14 days; 6 hours per day
	Sub-chronic NOEL Oral	Rat - Male, Female	3958 mg/kg	14 days; 6 hours per day
	Sub-chronic LOEL Inhalation Vapor	Rat - Male, Female	20 mg/m ³	13 weeks; 6 hours per day

General : No known significant effects or critical hazards.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Teratogenicity : No known significant effects or critical hazards.
Developmental effects : No known significant effects or critical hazards.
Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Reaction mass of dimethyl adipate and dimethyl glutarate and dimethyl succinate	Acute EC10 73 mg/l (biomass) Fresh water	Algae - Pseudokirchnerella subcapitata	72 hours
	Acute EC50 >85 mg/l (biomass) (growth rate) Fresh water	Algae - Pseudokirchnerella subcapitata	72 hours
	Acute LC50 112 to 150 ppm Fresh water	Daphnia	48 hours
	Acute LC50 18 to 24 ppm Fresh water	Fish - Pimephales promelas	96 hours
	Acute LOAEL 85 mg/l (biomass) (growth rate) Fresh water	Algae - Pseudokirchnerella subcapitata	72 hours
	Acute LOAEL 112 ppm Fresh water	Daphnia	48 hours
	Acute LOAEL 24 ppm Fresh water	Fish - Pimephales promelas	96 hours
	Acute NOEC 36 mg/l (biomass) (growth rate) Fresh water	Algae - Pseudokirchnerella subcapitata	72 hours
	Acute NOEC 84 ppm Fresh water	Daphnia	48 hours
	Acute NOEC 18 ppm Fresh water	Fish - Pimephales promelas	96 hours

Conclusion/Summary : UN GHS Classification AQUATIC HAZARD (ACUTE) Category 3

Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Reaction mass of dimethyl adipate and dimethyl glutarate and dimethyl succinate	-	97 % - Readily - 28 days	-	Activated sludge Fresh water
	-	87 % - Readily - 28 days	-	Marine water

Conclusion/Summary : This product is readily biodegradable.

Section 12. Ecological information

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Reaction mass of dimethyl adipate and dimethyl glutarate and dimethyl succinate	-	-	Readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Reaction mass of dimethyl adipate and dimethyl glutarate and dimethyl succinate	1	1	low

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	ADR/RID	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-	-	-
Transport hazard class(es)	-	-	-	-	-	-
Packing group	-	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.	No.
Additional information	-	-	-	-	-	-

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the

Section 14. Transport information

Transport in bulk according : Not available.
to Annex II of MARPOL
73/78 and the IBC Code

Section 15. Regulatory information

U.S. Federal regulations : TSCA 8(a) CDR Exempt/Partial exemption: Not determined
United States inventory (TSCA 8b): Listed on inventory.

Clean Air Act Section 112 : Not listed
(b) Hazardous Air
Pollutants (HAPs)

Clean Air Act Section 602 : Not listed
Class I Substances

Clean Air Act Section 602 : Not listed
Class II Substances

DEA List I Chemicals : Not listed
(Precursor Chemicals)

DEA List II Chemicals : Not listed
(Essential Chemicals)

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Immediate (acute) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
dimethyl glutarate	100	No.	No.	No.	Yes.	No.
dimethyl succinate	100	No.	No.	No.	Yes.	No.

State regulations

Massachusetts : None of the components are listed.

New York : None of the components are listed.

New Jersey : None of the components are listed.

Pennsylvania : None of the components are listed.

California Prop. 65

WARNING: This product contains less than 1% of a chemical known to the State of California to cause birth defects or other reproductive harm.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
methanol	No.	Yes.	No.	23000 µg/day (ingestion) 47000 µg/day (inhalation)

International regulations

Section 15. Regulatory information

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Inform Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

International lists

National inventory

Australia	: All components are listed or exempted.
Canada	: CANADA INVENTORY (DSL) Listed in DSL
China	: All components are listed or exempted.
Europe	: All components are listed or exempted.
Japan	: All components are listed or exempted.
Malaysia	: Not determined.
New Zealand	: All components are listed or exempted.
Philippines	: All components are listed or exempted.
Republic of Korea	: All components are listed or exempted.
Taiwan	: Not determined.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	1
Flammability	1
Physical hazards	0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

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



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA

Section 16. Other information

Procedure used to derive the classification

Classification	Justification
Not classified.	

History

Date of printing 3/8/2016

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Date of previous issue 3/8/2016

Version 3

Key to abbreviations

ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

UN = United Nations

References

Not available.

✓ Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Trusted Partner for Your Product Decorating Needs

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