

1. Identification

Product identifier DBE® ESTERS

Other means of identification

SDS number 1834

Recommended use Solvent, paint remover, chemical intermediate, coatings, cleaning agent, bonding agent, adhesives.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company Information INV Nylon Chemicals Americas, LLC
4123 East 37th Street North
Wichita, KS 67220

Emergency telephone 1-855-224-6545

General Information Product Information: 1-877-446-8478
Outside the U.S.: +1-770-792-4221

e-mail sds@invista.com

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

Environmental hazards Hazardous to the aquatic environment, acute Category 3 hazard

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement Harmful to aquatic life.

Precautionary statement

Prevention Avoid release to the environment.

Response Not assigned.

Storage Not assigned.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients**Mixtures**

Chemical name	Common name and synonyms	CAS number	%
DIMETHYL GLUTARATE		1119-40-0	55-65
DIMETHYL SUCCINATE		106-65-0	15-25
DIMETHYL ADIPATE		627-93-0	10-25

Composition comments The above concentration values do not reflect absolute minimums and maximums; these values are typical which may vary from time to time.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, give oxygen. If the affected person is not breathing, apply artificial respiration. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Do not use mouth-to-mouth method if victim inhaled the substance. Get medical attention, if needed.
Skin contact	Immediately flush skin with plenty of water. For minor skin contact, avoid spreading material on unaffected skin. Wash clothing separately before reuse. Get medical attention if irritation develops or persists.
Eye contact	Rinse immediately with plenty of water, also under the eyelids. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops or persists.
Ingestion	If swallowed, do NOT induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not use mouth-to-mouth method if victim ingested the substance. Obtain medical attention, as needed.
Most important symptoms/effects, acute and delayed	Eyes: May cause eye irritation with susceptible persons. Symptoms include itching, burning, redness and tearing.
	Skin: May cause skin irritation in susceptible persons. Symptoms may include redness, drying of skin, itching and pain.
	Ingestion: Ingestion can cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Indication of immediate medical attention and special treatment needed	Inhalation: Inhalation of vapors/fumes causes respiratory irritation with throat discomfort, coughing or difficulty breathing.
	Provide general supportive measures and treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the medical provider in attendance.

5. Fire-fighting measures

Suitable extinguishing media	Dry chemical, CO ₂ , water spray or regular foam.
Unsuitable extinguishing media	Do not use a solid water stream as it may scatter and spread fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Structural firefighters protective clothing will only provide limited protection.
Fire fighting equipment/instructions	In the event of fire, cool tanks with water spray. In the event of fire and/or explosion do not breathe fumes. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Move containers from fire area if you can do so without risk. Use standard firefighting procedures and consider the hazards of other involved materials.
Specific methods	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. ALWAYS stay away from tanks engulfed in flame.
General fire hazards	Irritating and toxic gases or fumes may be released during a fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak. Immediately evacuate personnel to safe areas. Keep out of low areas. Remove all sources of ignition. For personal protection, see section 8 of the SDS. Do not touch or walk through spilled material.
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Methods and materials for containment and cleaning up

Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Eliminate all sources of ignition or flammables that may come into contact with a spill of this material.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean contaminated surface thoroughly.

Never return spills in original containers for re-use.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Avoid release to the environment.

7. Handling and storage**Precautions for safe handling**

Use care in handling/storage. Observe good industrial hygiene practices. Wear appropriate personal protective equipment. When using, do not eat, drink or smoke. Wash hands after handling and before eating. Avoid release to the environment.

Conditions for safe storage, including any incompatibilities

Keep tightly closed in a dry, cool and well-ventilated place. Keep this material away from food, drink and animal feed. Keep away from heat, sparks, and flame. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection**Occupational exposure limits**

No exposure limits noted for ingredient(s).

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels.

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

Avoid contact with eyes. Wear safety glasses with side shields (or goggles).

Skin protection**Hand protection**

Wear appropriate chemical resistant gloves. Avoid contact with skin. Request information on glove permeation properties from the glove supplier.

Other

Wear suitable protective clothing.

Respiratory protection

Not normally needed. Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Avoid contact with the skin and the eyes. When using, do not eat, drink or smoke. Handle in accordance with good industrial hygiene and safety practice. Keep away from food and drink.

9. Physical and chemical properties**Appearance**

Colorless Liquid.

Physical state

Liquid.

Form

Liquid.

Color

Colorless.

Odor

mild, fruity.

Odor threshold

Not available.

pH

Not available.

Melting point/freezing point

-4 °F (-20 °C)

Initial boiling point and boiling range

384.8 - 437 °F (196 - 225 °C)

Flash point

212 °F (100 °C) Tag Closed Cup

Evaporation rate

Not available.

Flammability (solid, gas)

Not available.

Upper/lower flammability or explosive limits**Explosive limit - lower (%)** Not available.**Explosive limit - upper (%)** Not available.**Vapor pressure** 0.06 torr at 20°C**Vapor density** Not available.**Relative density (liquid)** Not available.**Solubility(ies)****Solubility (water)** 5.3 % w/w at 20°C (in water)**Auto-ignition temperature** 698 °F (370 °C)**Decomposition temperature** Not available.**Viscosity** 2.4 cSt at 25°C**Other information****Density** 9.09 lb/gal at 20°C**Specific gravity** 1.09 at 20°C**10. Stability and reactivity****Reactivity** The product is stable and non-reactive under normal conditions of use, storage and transport.**Chemical stability** Material is stable under normal conditions.**Possibility of hazardous reactions** Not expected to occur.**Conditions to avoid** Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point.**Incompatible materials** Strong acids, alkalies and oxidizing agents.**Hazardous decomposition products** Irritating and/or toxic fumes and gases may be emitted upon the product's decomposition. Carbon oxides**11. Toxicological information****Information on likely routes of exposure****Inhalation** Inhalation of vapors/fumes causes respiratory irritation with throat discomfort, coughing or difficulty breathing.**Skin contact** May cause skin irritation in susceptible persons. Symptoms may include redness, drying of skin, itching and pain.**Eye contact** May cause eye irritation with susceptible persons. Symptoms include itching, burning, redness and tearing.**Ingestion** Ingestion can cause gastrointestinal irritation, nausea, vomiting and diarrhea.**Symptoms related to the physical, chemical and toxicological characteristics** See information on likely routes of exposure.**Information on toxicological effects****Acute toxicity** Information given is based on data on the components and the toxicology of similar products. Based on available data, the classification criteria are not met.

Product	Species	Test Results
DIBASIC ESTERS		
Acute		
Dermal		
LD50	Rabbit	> 2250 mg/kg
	Rat	> 2000 mg/kg
Inhalation		
LC50	Rat	> 11 mg/l/4h
Oral		
LD50	Rat	> 5000 mg/kg

Skin corrosion/irritation	Based on available data, the classification criteria are not met. This product was not a skin irritant in rabbits when applied to intact skin for 4 hours under semi-occlusive dressings. Earlier studies indicated skin irritation is evident when applied to intact skin for 24 hours under rubber sheeting.
Serious eye damage/eye irritation	Based on available data, the classification criteria are not met. A single application of 10 uL to the eye cause corneal opacity. The administration of 10-100 uL of a similar mixture caused corneal opacity, transient increases in corneal thickness, and transient corneal anesthesia.
Respiratory or skin sensitization	
Respiratory sensitization	Based on available data, the classification criteria are not met.
Skin sensitization	Based on available data, the classification criteria are not met.
Germ cell mutagenicity	Based on available data, the classification criteria are not met.
Carcinogenicity	Based on available data, the classification criteria are not met.
IARC Monographs. Overall Evaluation of Carcinogenicity	Not listed.
US. National Toxicology Program (NTP) Report on Carcinogens	Not listed.
Reproductive toxicity	Based on available data, the classification criteria are not met.
Specific target organ toxicity - single exposure	Based on available data, the classification criteria are not met.
Specific target organ toxicity - repeated exposure	Based on available data, the classification criteria are not met.
Aspiration hazard	Based on available data, the classification criteria are not met.
Further information	None known

12. Ecological information

Ecotoxicity	Harmful to aquatic life.		
Product	Species		Test Results
DIBASIC ESTERS			
	EC50	Fathead Minnows	18 - 24 mg/l, 96 Hours
Aquatic			
Algae	LOEC	Algae	85 mg/l, 72 Hours
	NOEC	Algae	36 mg/l, 72 Hours
Crustacea	EC50	Daphnia	112 - 150 mg/l, 48 Hours
Persistence and degradability	Readily biodegradable. Biodegradability = 97 % after 4 Days		
Bioaccumulative potential	Does not bioaccumulate.		
Mobility in soil	No data available.		
Other adverse effects	No data available.		

13. Disposal considerations

Disposal instructions	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Dispose of contents/container (in accordance with related regulations).
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14. Transport information

DOT	Not regulated as dangerous goods.
IATA	Not regulated as dangerous goods.
IMDG	Not regulated as dangerous goods.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not available.

15. Regulatory information

US federal regulations

This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

All components are on the U.S. EPA TSCA Inventory List.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity	Threshold planning quantity	Threshold planning quantity, lower value	Threshold planning quantity, upper value
DIMETHYL SULFATE	77-78-1	100	500 lbs		
HYDROGEN CYANIDE	74-90-8	10	100 lbs		

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

US. California Proposition 65

WARNING - This product can expose you to chemicals including Dimethyl Sulfate, which is [are] known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

WARNING - This product can expose you to chemicals including Methanol and Hydrogen Cyanide, which is [are] known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Contains <0.2% Methanol

Contains <15ppm Hydrogen Cyanide

Contains <50ppm Dimethyl Sulfate

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

DIMETHYL SULFATE (CAS 77-78-1) Listed: January 1, 1988

US - California Proposition 65 - CRT: Listed date/Developmental toxin

METHANOL (CAS 67-56-1) Listed: March 16, 2012

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

HYDROGEN CYANIDE (CAS 74-90-8) Listed: July 5, 2013

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

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

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date

May-15-2020

Revision date	October-05-2020
Version #	2.0
HMIS® ratings	Health: 0 Flammability: 0 Physical hazard: 0
NFPA ratings	Health: 0 Flammability: 0 Instability: 0
List of abbreviations	IARC = International Agency for Research on Cancer. ACGIH = American Conference of Governmental Industrial Hygienists. OSHA = Occupational Safety and Health Administration. NTP = National Toxicology Program. CAS = Chemical Abstract Service TWA = Time Weighted Average SDS = Safety Data Sheet TLV = Threshold Limit Value. NFPA = National Fire Protection Association. HMIS = Hazardous Material Information System.
References	Internal assessments, testing and research. Thompson Micromedex, Database, 2006. Hazardous Substance Data Bank, Database, 2006.
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Revision information	Product and Company Identification: Product and Company Identification