

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name : Dodecenylsuccinic Anhydride, DDSA
 Product form : Substance
 CAS No : 26544-38-7
 Product code : DDSA
 Other means of identification : Tetrapropenylsuccinic Anhydride, 2,5-Furandione, dihydro-3-(tetrapropenyl)

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Manufacture
 Specialty
 Curing agent in epoxy resins systems
 Intermediate for the preparation lubricating oil additives

1.3. Details of the supplier of the safety data sheet

Dixie Chemical Company, Inc.
 10601 Bay Area Blvd
 Pasadena TX 77507
 Phone: 281-474-3271
 Email: msds@dixiechemical.com

1.4. Emergency telephone number

Emergency number : CHEMTREC® (800) 424-9300 Domestic, (703) 527-3887 International

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Skin Irrit. 2 H315
 Eye Irrit. 2A H319
 Resp. Sens. 1 H334
 Skin Sens. 1 H317

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :



GHS08

Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H315 - Causes skin irritation
 H317 - May cause an allergic skin reaction
 H319 - Causes serious eye irritation
 H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled

Precautionary statements (GHS-US) :

P261 - Avoid breathing dust, mist
 P264 - Wash hands, forearms and face thoroughly after handling
 P272 - Contaminated work clothing must not be allowed out of the workplace
 P280 - Wear eye protection, face protection, protective clothing, protective gloves
 P284 - [In case of inadequate ventilation] wear respiratory protection
 P302+P352 - If on skin: Wash with plenty of soap and water
 P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
 P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P321 - Specific treatment (see first aid instructions on this label)
 P332+P313 - If skin irritation occurs: Get medical advice/attention
 P333+P313 - If skin irritation or rash occurs: Get medical advice/attention
 P337+P313 - If eye irritation persists: Get medical advice/attention
 P342+P311 - If experiencing respiratory symptoms: Call a doctor, a poison center
 P362 - Take off contaminated clothing and wash before reuse
 P362+P364 - Take off contaminated clothing and wash it before reuse
 P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

Dodecenylsuccinic Anhydride, DDSA

Safety Data Sheet

Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Name : Dodecenylsuccinic Anhydride, DDSA

CAS No : 26544-38-7

Name	Product identifier	%
2,5-Furandione, dihydro-3-(tetrapropenyl)-	(CAS No) 26544-38-7	80 - 100
Maleic anhydride	(CAS No) 108-31-6	0.05 - 0.5

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : If exposed or concerned, get medical attention/advice. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use. Never give anything to an unconscious person.
- First-aid measures after inhalation : IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if breathing is affected. If breathing is difficult, supply oxygen.
- First-aid measures after skin contact : IF ON SKIN (or clothing): Remove affected clothing and wash all exposed skin with water for at least 15 minutes. If irritation develops or persists, get medical attention.
- First-aid measures after eye contact : IF IN EYES: Immediately flush with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do so. If pain, blinking, or irritation develops or persists, get medical attention. Continue rinsing.
- First-aid measures after ingestion : IF SWALLOWED: rinse mouth thoroughly. Do not induce vomiting without advice from poison control center or medical professional. Get medical attention if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries : Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Symptoms/injuries after inhalation : May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Symptoms/injuries after skin contact : Causes skin irritation. May cause an allergic skin reaction.
- Symptoms/injuries after eye contact : Causes serious eye irritation.
- Symptoms/injuries after ingestion : May cause gastrointestinal irritation.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Foam. Carbon dioxide.

Unsuitable extinguishing media : Water jet.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Material will not burn unless preheated.

Explosion hazard : No data available.

Reactivity : Reacts slowly with water.

5.3. Advice for firefighters

Firefighting instructions : Use cold water spray to cool fire-exposed containers to minimize risk of rupture. Do not dispose of fire-fighting water in the environment. Dispose of in accordance with relevant local regulations. Prevent human exposure to fire, fumes, smoke and products of combustion.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Evacuate area. Keep upwind. Ventilate area. Spill should be handled by trained clean-up crews properly equipped with respiratory equipment and full chemical protective gear (see Section 8).

6.1.1. For non-emergency personnel

Protective equipment : Wear protective equipment as described in Section 8.

Dodecenylsuccinic Anhydride, DDSA

Safety Data Sheet

Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Notify authorities if product enters sewers or public waters. Prevent entry to sewers and public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Place in a suitable container for disposal in accordance with the waste regulations (see Section 13). Wash spill area thoroughly with plenty of water.

6.4. Reference to other sections

See Sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wear personal protective equipment. Do not handle until all safety precautions have been read and understood. Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a cool dry place.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

2,5-Furandione, dihydro-3-(tetrapropenyl)- (26544-38-7)	
Remark (ACGIH)	OELs not established
Remark (OSHA)	OELs not established
Maleic anhydride (108-31-6)	
ACGIH TWA (mg/m ³)	0.01 mg/m ³ (inhalable fraction and vapor)
OSHA PEL (TWA) (mg/m ³)	1 mg/m ³
OSHA PEL (TWA) (ppm)	0.25 ppm

8.2. Exposure controls

Appropriate engineering controls : Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment with flammable materials. Ensure adequate ventilation, especially in confined areas.

Personal protective equipment : Gloves. Protective goggles. Protective clothing. Insufficient ventilation: wear respiratory protection.



Hand protection : Use gloves chemically resistant to this material when prolonged or repeated contact could occur. Gloves should be classified under Standard EN 374 or ASTM F1296. Suggested glove materials are: Neoprene, Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, PVC or vinyl.

Eye protection : Wear eye protection, including chemical splash goggles and a face shield when possibility exists for eye contact due to spraying liquid or airborne particles.

Skin and body protection : Wear long sleeves, and chemically impervious PPE/coveralls to minimize bodily exposure.

Respiratory protection : Use NIOSH-approved dust/particulate respirator. Where vapor, mist, or dust exceed PELs or other applicable OELs, use NIOSH-approved respiratory protective equipment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Color : Light yellow.

Odor : Slight.

Dodecenylsuccinic Anhydride, DDSA

Safety Data Sheet

Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Odor Threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: ≥ 1
Melting point	: No data available
Freezing point	: No data available
Boiling point	: 173 - 190 @ 3 mm Hg (343 - 374 °F)
Flash point	: 157 °C (315 °F) PMCC, ASTM D93
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: ≥ 1 @ 20 °C (68 °F) ASTM D 5191
Relative vapour density at 20 °C	: ≤ 1 (air = 1)
Relative density	: 1.002 @ 26 °C (79 °F) (water = 1)
Solubility	: Reacts slowly with water.
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: ~350 cPs @ 25 C
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts slowly with water.

10.2. Chemical stability

Stable under use and storage conditions as recommended in section 7.

10.3. Possibility of hazardous reactions

None known.

10.4. Conditions to avoid

Incompatible materials. Temperatures above 220 °C (428 °F).

10.5. Incompatible materials

Alkaline materials.

10.6. Hazardous decomposition products

Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

2,5-Furandione, dihydro-3-(tetrapropenyl)- (26544-38-7)	
LD50 oral rat	2550 mg/kg
Maleic anhydride (108-31-6)	
LD50 oral rat	235 mg/kg
LD50 dermal rabbit	2620 mg/kg
LC50 inhalation rat (mg/l)	0.16 mg/l/4h

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitisation	: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified

Dodecenylsuccinic Anhydride, DDSA

Safety Data Sheet

Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Symptoms/injuries after inhalation	: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Symptoms/injuries after skin contact	: Causes skin irritation. May cause an allergic skin reaction.
Symptoms/injuries after eye contact	: Causes serious eye irritation.
Symptoms/injuries after ingestion	: May cause gastrointestinal irritation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : No information available.

12.2. Persistence and degradability

Dodecenylsuccinic Anhydride, DDSA (26544-38-7)

Persistence and degradability	No data available.
-------------------------------	--------------------

12.3. Bioaccumulative potential

Dodecenylsuccinic Anhydride, DDSA (26544-38-7)

Bioaccumulative potential	No information available.
---------------------------	---------------------------

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Do not discharge to public wastewater systems without permit of pollution control authorities. No discharge to surface waters is allowed without an NPDES permit.

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Do not allow the product to be released into the environment.

SECTION 14: Transport information

In accordance with DOT

Not hazardous for transport

Additional information

Other information : No supplementary information available.

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

Dodecenylsuccinic Anhydride, DDSA (26544-38-7)

All chemical substances in this product are listed in the EPA (Environment Protection Agency) TSCA (Toxic Substances Control Act) Inventory or are exempt	
---	--

SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
-------------------------------------	---------------------------------

15.2. International regulations

All chemical substances in this product are listed on the Australian Inventory of Chemical Substances (AICS) or are exempt

All chemical substances in this product are listed on the Canadian Domestic Substances List (DSL) or Non-Domestic Substances List (NDSL) or are exempt

All chemical substances in this product are listed on the Japanese Existing and New Chemical Substances Inventory (ENCS) or are exempt

All chemical substances in this product are listed on the Chinese Chemical Inventory of Existing Chemical Substances (IECSC) or are exempt

All chemical substances in this product are listed on the European EINECS Inventory or the ELINCS list or are exempt

All chemical substances in this product are listed on the Korean Existing Chemicals Inventory (KECI) or are exempt

All chemical substances in this product are listed on the New Zealand Inventory of Chemicals (NZIoC) or are exempt

All chemical substances in this product are listed on the Philippines Inventory of Chemicals and Chemical Substances (PICCS) or are exempt

All chemical substances in this product are listed on the Taiwan Chemical Substance Inventory (TSCI) or are exempt

15.3. US State regulations

California Proposition 65

Dodecenylsuccinic Anhydride, DDSA

Safety Data Sheet

Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

This product does not contain any substances known to the state of California to cause cancer and/or reproductive harm

Maleic anhydride (108-31-6)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Indication of changes : Revision 1.0: New SDS Created.

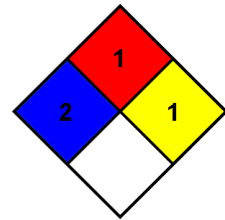
: 08/25/2015

Other information : Author: ANF.

NFPA health hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA fire hazard : 1 - Must be preheated before ignition can occur.

NFPA reactivity : 1 - Normally stable, but can become unstable at elevated temperatures and pressures or may react with water with some release of energy, but not violently.



HMIS III Rating

Health : 2

Flammability : 1

Physical : 1

Personal Protection :

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.