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Safety Data Sheet (SDS)

Revision / Review Date: 7/24/15

1. Chemical Product and Company Identification

Product Name: DAP
Distributed By: HB Chemical
1665 Enterprise Parkway
Twinsburg Oh 44087
Phone - 330-920-8023
SDS Prepared By (w Suppliers Input): HB Chemical
Synonym: Diallyl phthalate monomer
Chemical Name / Family: Diallyl phthalate
Formula: CH14O4
Molecular Weight: 246.26 g/mol
Product Use: Plasticizer
OSHA Status: Non hazardous
CAS Number: 131-17-9

For emergency health, safety, and environmental information, calls 330-920-8023
For emergency transportation information, in the United States: call CHEMTREC at 800-424-9300

2. Hazard(s) Identification

GHS-US Labeling Hazard Pictograms (GHS-US):



Classification of the Substance or Mixture

Classification (GHS-US):
Acute Tox. 4 (Oral) H302
Acute Tox. 4 (Inhalation) H332
Skin Sens. 1 H317
STOT SE. 1 H371
STOT RE. 1 H373
Aquatic Acute 1 H400

Signal Word (GHS-US):

Warning.

Hazard Statements (GHS-US):

H302+H332 - Harmful if swallowed or if inhaled.
H317 - May cause an allergic skin reaction.
H371 - May cause damage to organs.
H373 - May cause damage to organs through prolonged or repeated exposure.
H400 - Very toxic to aquatic life.

Precautionary Statements (GHS-US):

P260 - Do not breathe dust/fume/gas/mist/ vapors/spray.
P261 - Avoid breathing vapors, mist, or spray.
P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P272 - Contaminated work clothing must not be allowed out of the workplace.
P273 - Avoid release to the environment.
P280 - Wear protective gloves, protective clothing, and eye protection.
P301+P312 - IF SWALLOWED: Call a poison center or doctor if you feel unwell.
P302+P352 - IF ON SKIN: Wash with plenty of water.
P304+P340 - IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P330 - Rinse mouth.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P391 - Collect spillage.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

Other Hazards:

Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions.

Unknown Acute Toxicity (GHS-US):

No data available.

Chronic Symptoms:

Suspected of causing genetic defects (oral, dermal).

Indication of Any Immediate Medical Attention and Special Treatment Needed:

If exposed or concerned, get medical advice and attention.

Symptoms/Injuries:

Harmful if swallowed or if inhaled. May cause an allergic skin reaction. Suspected of causing genetic defects (oral, dermal). May be fatal if swallowed and enters airways.

Eye Contact:

May cause eye irritation.

Skin Contact:

May cause irritation, rash/allergic reaction. Symptoms may include: Redness, pain, swelling, itching, burning, dryness, and dermatitis.

Ingestion:

May cause hepatic injury and digestive tract disturbances. Harmful if swallowed. May be fatal if swallowed and enters airways.

Inhalation:

May cause respiratory tract irritation. Harmful if inhaled.

3. Composition / Information on Ingredients

Name	Product Identifier	%	Classification (GHS-US)
Diallyl phthalate	(CAS No) 131-17-9	>99	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation), H332 Skin Sens. 1B, H317 STOT SE. 1, H371 STOT RE. 1, H373 Aquatic Acute 1, H400

4. First Aid Measures

First-aid Measures General:

Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label if possible).

Inhalation:

Remove to fresh air. Give the victim rest. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Never give anything by mouth to an unconscious person. Get immediate medical attention.

Eyes:

Immediately hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention. Remove contact lenses if worn.

Skin:

Remove contaminated clothing. Wash skin with soap and water immediately. Get medical attention if irritation develops or persists.

Ingestion:

Do not induce vomiting. Rinse mouth. Immediately call a poison center or doctor/physician.

5. Fire-Fighting Measures

Extinguishing Media:

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable Extinguishing Media:

Do not use a heavy water stream. Use of heavy stream of water may spread fire. Application of water stream to hot product may cause frothing and increase fire intensity.

Special Fire Fighting Procedures:

Evacuate area and fight fire from safe distance. Keep unnecessary and unprotected personnel from entering and stay upwind. Wear self-contained breathing apparatus and full protective equipment. Avoid inhalation of material or combustion by-products. Move container from fire area if it can be done without risk. If impossible to remove, cool container with water spray.

<u>Fire Hazard:</u>	Not considered flammable but may burn at high temperatures.
<u>Explosion Hazard:</u>	Product is not explosive.
<u>Reactivity:</u>	Hazardous reactions will not occur under normal conditions. Will polymerize with heat & catalyst.
<u>Precautionary Measures Fire:</u>	Exercise caution when fighting any chemical fire. Under fire conditions, hazardous fumes will be present. Do not breathe fumes from fires or vapors from decomposition.
<u>Firefighting Instructions:</u>	Use water spray or fog for cooling exposed containers.
<u>Protection during Firefighting:</u>	Do not enter fire area without proper protective equipment, including respiratory protection.
<u>Other Information:</u>	Refer to Section 9 for flammability properties.

6. Accidental Release Measures

<u>Personal Precautions:</u>	Use protective equipment: glasses, boots and apron. Remove contaminated clothing.
<u>Environmental Precautions:</u>	This substance is very toxic to aquatic organisms. Do not drain or enter bodies of water.
<u>Methods for containment and clean-up:</u>	Immediately soak up with inert absorbent material such as dry sand, sawdust, and waste paper. And dispose of as hazard waste following local regulations. Keep in suitable, closed containers for disposal.
<u>General Measures:</u>	Observe normal standards for handling chemicals. Avoid inhalation and contact with eyes and skin. It is recommended that those with a medical history of sensitization should not handle this product.
<u>For Non-emergency Personnel Protective Equipment:</u>	Use appropriate personal protection equipment (PPE).
<u>Emergency Procedures:</u>	Evacuate unnecessary personnel.
<u>Protective Equipment:</u>	Equip cleanup crew with proper protection.
<u>Emergency Procedures:</u>	Stop leak if safe to do so. Eliminate ignition sources. Ventilate area.
<u>Environmental Precautions:</u>	Do not allow to enter drains or water courses. Notify authorities if liquid enters sewers or public waters.
<u>For Containment:</u>	As an immediate precautionary measure, isolate spill or leak area in all directions.
<u>Methods for Cleaning Up:</u>	Clean up spills immediately and dispose of waste safely. Spills should be contained with mechanical barriers. Transfer spilled

material to a suitable container for disposal. Contact competent authorities after a spill.

7. Handling and Storage:

Empty Containers:

Treat as hazard waste.

Handling:

Avoid contact with skin and eyes. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Keep away from all ignition sources. Keep away from food, drink and animal feeding stuffs.

Storage:

Keep container tightly closed in a cool, dry and well-ventilated place away from sources of heat, open flames, sparks and direct sunlight. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in a dry, cool, and well-ventilated place. Keep container closed when not in use. Keep/Store away from sources of ignition, direct sunlight, extremely high or low temperatures, high pressure.

Additional Hazards When Processed:

Any proposed use of this product in elevated-temperature processes should be thoroughly evaluated to assure that safe operating conditions are established and maintained. Product will polymerize with heat & catalyst.

Hygiene Measures:

Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and when leaving work.

Technical Measures:

Comply with applicable regulations. Ensure all national/local regulations are observed.

Incompatible Products:

Strong acids. Strong bases. Strong oxidizers.

Specific End Use(s):

Crosslinking agents of insulating varnish, unsaturated polyester and reactive plasticizer of PVC. For professional use only.

8. Exposure Controls / Personal Protection

Exposure Controls:

Provide adequate ventilation. Keep container tightly closed. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Control Parameters:

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), or OSHA (PEL).

<u>Appropriate Engineering Controls:</u>	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor or mists below the applicable workplace exposure limits. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure all national/local regulations are observed.
<u>Personal Protective Equipment:</u>	Protective goggles. Gloves. Protective clothing. Insufficient ventilation: wear respiratory protection.
<u>Materials for Protective Clothing:</u>	Chemically resistant materials and fabrics.
<u>Hand Protection:</u>	Wear chemically resistant protective gloves.
<u>Eye Protection:</u>	Chemical goggles or safety glasses.
<u>Skin and Body Protection:</u>	Wear suitable protective clothing. Wear protective gloves. Wear apron, boots and full protective suite.
<u>Respiratory Protection:</u>	If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. Wear air-purifying respirator equipped with organic vapor cartridges or canisters.
<u>Environmental Exposure Controls:</u>	Do not allow the product to be released into the environment.
<u>Consumer Exposure Controls:</u>	Do not eat, drink, or smoke during use.

9. Physical and Chemical Properties

<u>Physical Form:</u>	Liquid
<u>Appearance:</u>	Colorless or slightly yellow
<u>Odor:</u>	Mild Characteristic odor
<u>Odor Threshold:</u>	No data available.
<u>pH:</u>	6.9 - 7.3 @ 20°C/68 °F
<u>Evaporation Rate:</u>	No data available
<u>Specific Gravity:</u>	1.12 (20/20°C)
<u>Solubility:</u>	Soluble to most organic solvents
<u>Melting Point:</u>	- 70 ° C (-94 °F)
<u>Freezing Point:</u>	No data available
<u>Partition Coefficient (n-octanol/water):</u>	3.23
<u>Flash Point, TAG CC F:</u>	166 °C (331 °F) (Closed cup)

<u>Vapor Pressure (mm Hg):</u>	0.213 Pa @ 25 °C / 77 °F
<u>Relative Vapor Density at 20 °C:</u>	8.3(25°C) (air=1)
<u>Relative Density:</u>	No data available
<u>Boiling Point (°F) Initial:</u>	165.0 - 167.0 deg C @ 5.00MM
<u>Auto ignition Temperature, °C:</u>	435 °C (815 °F) at 1,013 hPa (760 mmHg)
<u>Decomposition Temperature:</u>	No data available
<u>Flammability (solid, gas):</u>	No data available
<u>Viscosity:</u>	No data available

10. Stability and Reactivity

<u>Stability:</u>	Stable under normal temperatures and pressures.
<u>Incompatibility (Materials to Avoid):</u>	Strong acid, strong base and strong oxidizer.
<u>Conditions to Avoid:</u>	Direct sunlight. Extremely high or low temperatures. Sparks, heat, open flame and other sources of ignition. High pressure. Incompatible materials.
<u>Hazardous Decomposition Products:</u>	Carbon monoxide, carbon dioxide. Carbon oxides (CO, CO ₂). Phthalic anhydride. Allyl compounds.
<u>Hazardous Polymerization:</u>	May occur.
<u>Reactivity:</u>	Hazardous reactions will not occur under normal conditions. Will polymerize with heat & catalyst.
<u>Chemical Stability:</u>	Stable under recommended handling and storage conditions.
<u>Possibility of Hazardous Reactions:</u>	Hazardous reactions will not occur under normal conditions. Will polymerize with heat & catalyst.

11. Toxicological Information

No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH, NTP, OSHA and IARC.

Acute Toxicity:

Oral: Harmful if swallowed.

Inhalation: Harmful if inhaled.

DAISO DAP Monomer 131-17-9

ATE (Oral)	500.00 mg/kg body weight
ATE (Dust/Mist)	2.10 mg/l/4h
Diallyl phthalate (131-17-9)	
LC50 Inhalation Rat	5200 mg/m ³ (Exposure time: 1 h)
ATE (Oral)	500.00 mg/kg body weight
ATE (Dust/Mist)	2.10 mg/l/4h

Acute Toxicity:

Oral effects: LD50 656mg/kg (rats)
Remarks: Behavioral: Somnolence (general depressed activity).

Dermal effects: LD50 3300mg/kg (rabbits)

Inhalation effects: LC50 5200mg/kg (rats) (1hr.)
Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste): Eye: Other. Lungs, Thorax, or Respiration: Dyspnea. Gastrointestinal: Changes in structure or function of salivary glands.

Skin Corrosion/Irritation: Not classified.

Serious Eye Damage/Irritation: Not classified.

Respiratory or Skin Sensitization: May cause an allergic skin reaction.

Germ Cell Mutagenicity: Suspected of causing genetic defects.

Carcinogenicity: Not classified.

Rat- Oral: Tumorigenic: Carcinogenic by RTECS criteria. Leukemia

Mouse – Oral: Tumorigenic: Carcinogenic by RTECS criteria. Leukemia

Reproductive Toxicity: Not classified.

Specific Target Organ Toxicity (Single Exposure): Not classified.

Specific Target Organ Toxicity (Repeated Exposure): Not classified.

Aspiration Hazard: May be fatal if swallowed and enters airways.

Symptoms/Injuries After Inhalation: Harmful if inhaled.

Symptoms/Injuries After Skin Contact: May cause an allergic skin reaction. Symptoms may include: Redness, pain, swelling, itching, burning, dryness, and dermatitis.

Symptoms/Injuries After Eye Contact: May cause eye irritation.

Symptoms/Injuries After Ingestion: Harmful if swallowed. May be fatal if swallowed and enters airways.

Chronic Symptoms: Suspected of causing genetic defects (oral, dermal).

12. Ecological Information

Toxicity to fish: LC50 - Leuciscus idus melanotus - 0.4 mg/l - 48.0 h
LC0 - Leuciscus idus melanotus - 0.3 mg/l - 48.0 h

Toxicity to daphnia and other aquatic invertebrates: LC50 - Daphnia magna (Water flea) - 20 mg/l - 24 h

Ecology - General: Very toxic to aquatic life.

Persistence and Degradability: No additional information available.

Bioaccumulative Potential: No additional information available.

Mobility in Soil: No additional information available.

Other Adverse Effects: Avoid release to the environment.

Diallyl phthalate (131-17-9)

<u>LC50 Fish 1</u>	0.44 mg/l
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13. Disposal Considerations

Disposal of wastes and used containers must be in accordance with applicable federal, state and local regulations. Do not flush to surface water or sanitary sewer system.

Sewage Disposal Recommendations: Do not empty into drains; dispose of this material and its container in a safe way.

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, and international regulations.

Ecology – Waste Materials: This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

14. Transport Information

DOT:

<u>Hazard Class:</u>	9
<u>Identification Number:</u>	UN 3082
<u>Packing Group:</u>	III
<u>Proper Shipping Name:</u>	Environmentally Hazardous Substances, Liquid, N.O.S.

	(Diallyl phthalate monomer)
<u>Label Codes:</u>	9
<u>Marine Pollutants:</u>	Yes
<u>ERG Number:</u>	171
IMDG	
<u>Class:</u>	9
<u>UN Number:</u>	3082
<u>Packing Group:</u>	III
<u>Proper Shipping Name:</u>	Environmentally Hazardous Substances and articles
<u>Marine Pollutants:</u>	Yes
<u>Label Codes:</u>	9
<u>EmS-No. (Fire) :</u>	F-A
<u>EmS-No. (Spillage) :</u>	S-F
ICAO/IATA	
<u>Class:</u>	9
<u>UN Number:</u>	3082
<u>Packing Group:</u>	III
<u>Proper Shipping Name:</u>	Environmentally Hazardous Substances and articles
<u>Label Codes :</u>	9
<u>ERG Code (IATA) :</u>	9L

15. Regulatory Information

All components of this material are on the TSCA Inventory

All components of this material are on the Canadian DSL

OSHA Status: Not listed

SARA Title III

Section 302: Not regulated.
Section 311/312: Delayed (chronic) health hazard, Immediate (acute) health hazard
Section 313: Not regulated.

Massachusetts Right To Know: Diallyl phthalate, CAS-No.131-17-9

Pennsylvania Right To Know: Diallyl phthalate, CAS-No.131-17-9

New Jersey Right To Know: Diallyl phthalate, CAS-No.131-17-9

Minnesota - Chemicals of High Concern: Diallyl phthalate, CAS-No.131-17-9

U.S. - Texas - Effects Screening Levels - Long Term

U.S. - Texas - Effects Screening Levels - Short Term

California Prop. 65 Components:

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

16. Other Information

The above information has been compiled from what we believe to be credible sources. To our knowledge the information is accurate and reliable, however, it is not guaranteed. Any recommendations issued by HB Chemical personnel or literature is derived from experience and by no means should be taken as fact or construed as a recommendation to violate of any law, regulation or patent. It is the user's responsibility to determine the suitability of any HB supplied material in their application. The individual conditions of each customer are well outside of our control and we cannot be held liable for its functionality and use. Please contact our office should you need specific information beyond what is supplied above. As with all Chemical usage safety precautions beyond the stated are highly recommended.