


SAFETY DATA SHEET

Section 1. Identification

Product identifier	: BAYSOLVEX D2EHPA
Material Number	: 00025844
Synonym	: Alkyl hydrogen phosphate
Identified uses	: Plastic additive
Supplier/Manufacturer	: LANXESS Corporation Product Safety & Regulatory Affairs 111 RIDC Park West Drive Pittsburgh, PA 15275-1112 USA
	For information: US/Canada (800) LANXESS International +1 412 809 1000
In case of emergency	: Chemtrec (800) 424-9300 International (703) 527-3887 Lanxess Emergency Phone (800) 410-3063.

Section 2. Hazards identification

HAZCOM Standard Status	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Physical state	: Liquid.
Color	: Colorless.
Classification of the substance or mixture	: ACUTE TOXICITY: ORAL - Category 4 SKIN CORROSION/IRRITATION - Category 1 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) [lungs] - Category 1
Hazard pictograms	: 
Signal word	: Danger
Hazard statements	: Harmful if swallowed. Causes severe skin burns and eye damage. Causes damage to organs. (lungs)
Hazard Not Otherwise Classified (HNOC)	: Causes digestive tract burns.
Precautionary statements	
Prevention	: Wear protective gloves/clothing and eye/face protection. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.
Response	: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
Storage	: Store locked up.
Disposal	: Dispose of contents and container in accordance with all local, regional, national and international regulations.

Section 2. Hazards identification

Supplemental label elements : Do not taste or swallow. Wash thoroughly after handling. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials and food and drink. Corrosive to digestive tract

Section 3. Composition/information on ingredients

Substance/mixture : Substance

Ingredient name	%	CAS number
Diethylhexylphosphate	95 - 100%	298-07-7

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 and hence require reporting in this section.

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

Section 4. First aid measures

Description of first aid measures

- Eye contact** : Get medical attention immediately. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. In case of contact with eyes, flush eyes with plenty of water for at least 30 minutes. Chemical burns must be treated promptly by a physician.
- Inhalation** : Get medical attention immediately. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. If not breathing, if breathing is irregular or respiratory arrest occurs, provide artificial respiration, or oxygen by a trained professional, using a pocket type respirator.
- Skin contact** : In case of contact, flush skin with plenty of water for at least 30 minutes. Get medical attention immediately. Immediately remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. 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. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system.
- Skin contact** : Causes severe burns.
- Ingestion** : Harmful if swallowed. Corrosive to the digestive tract. Causes burns. May cause burns to mouth, throat and stomach.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain
watering
redness

Section 4. First aid measures

- Inhalation** : No specific data.
- Skin contact** : Corrosive with symptoms of reddening, itching, swelling, burning and possible permanent damage.
- Ingestion** : Corrosive with symptoms of coughing, burning, ulceration, and pain. Symptoms of ingestion may include abdominal pain, nausea, vomiting, and diarrhea.

Potential chronic health effects

No known significant effects or critical hazards.

- Notes to physician** : Treat symptomatically. No specific treatment.
- Protection of first-aiders** : If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire. In case of fire, use water spray (fog), foam or dry chemical.
- 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. Toxic and irritating gases/fumes may be given off during burning or thermal decomposition. Water runoff from fire fighting may be corrosive.

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

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 : 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. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

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 : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Wash spillages into an effluent treatment plant or proceed as follows. 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. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal. Prevent entry into sewers, water courses, basements or confined areas.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. Remove contaminated clothing and protective equipment before entering eating areas. Workers should wash hands and face before eating, drinking and smoking. Put on appropriate personal protection equipment. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.
- Conditions for safe storage** : 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. Empty containers retain product residue and can be hazardous. Do not reuse container.

Section 8. Exposure controls/personal protection

Occupational exposure limits

No exposure limit value known.

- Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Personal protection

- 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.
- Respiratory protection** : When high levels of vapors or aerosols are not controlled by local ventilation, respiratory protection is recommended. Recommended: NIOSH approved positive pressure air-supplied respirator.
- Skin protection** : Chemical-resistant gloves. Chemical-resistant protective suit. Suitable protective footwear.
- Eye/face protection** : chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.
- Medical Surveillance** : Not available.

Section 9. Physical and chemical properties

- Physical state** : Liquid.
- Color** : Colorless.
- Odor** : Faint odor.
- Odor threshold** : Not available.
- pH** : Not available.
- Boiling point** : Not available.
- Melting point** : -50°C (-58°F)
- Flash point** : Closed cup: 181°C (357.8°F)
- Evaporation rate** : Not available.
- Explosion limits** : Not available.
- Vapor pressure** : Not available.
- Density** : 0.97 g/cm³

Section 9. Physical and chemical properties

Specific gravity (Relative density)	: Not available.
Solubility	: 0.182 g/l (water)
Partition coefficient: n-octanol/water	: Not available.
Vapor density	: Not available.
Viscosity	: Dynamic: 40.99 mPa·s
Auto-ignition temperature	: 255°C (491°F)
Decomposition temperature	: 240°C

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	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: Avoid extreme heat.
Incompatible materials	: Non-noble metals , iron, aluminium , zinc
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on the likely routes of exposure : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Eye contact	: Causes serious eye damage.
Inhalation	: May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system.
Skin contact	: Causes severe burns.
Ingestion	: Harmful if swallowed. Corrosive to the digestive tract. Causes burns. May cause burns to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	: Adverse symptoms may include the following: pain watering redness
Inhalation	: No specific data.
Skin contact	: Corrosive with symptoms of reddening, itching, swelling, burning and possible permanent damage.
Ingestion	: Corrosive with symptoms of coughing, burning, ulceration, and pain. Symptoms of ingestion may include abdominal pain, nausea, vomiting, and diarrhea.

Potential chronic health effects

Short term exposure

Potential immediate effects : Not available.

Long term exposure

Potential delayed effects	: Not available.
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.

Section 11. Toxicological information

Fertility effects : No known significant effects or critical hazards.

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure	Test
Diethylhexylphosphate	LD50 Oral	Rat - Male, Female	1400 mg/kg	-	401 Acute Oral Toxicity
Diethylhexylphosphate	LD50 Dermal	Rabbit - Male, Female	>2000 mg/kg	-	402 Acute Dermal Toxicity
Diethylhexylphosphate	LC50 Inhalation Vapor	Rat - Male, Female	>1300 mg/m ³	8 hours	403 Acute Inhalation Toxicity

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Diethylhexylphosphate	Eyes - Iris lesion	Rabbit	0	-	7 days
	Eyes - Cornea opacity	Rabbit	0.5	-	7 days
	Skin - Edema	Rabbit	0	<=4 hours	1 hours
	Eyes - Redness of the conjunctivae	Rabbit	2.33	-	7 days

Conclusion/Summary

Skin : corrosive

Eyes : corrosive

Chronic toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Diethylhexylphosphate	Sub-acute NOAEL Oral	Rat	150 mg/kg bw/day	4 weeks
	Sub-acute LOAEL Oral	Rat - Male, Female	30 mg/kg bw/day	-

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Diethylhexylphosphate	Ames test	Experiment: In vitro Subject: Bacteria	Negative
	Mouse lymphoma assay	Experiment: In vitro Subject: Mammalian-Animal	Negative
	HPRT test	Experiment: In vitro Subject: Mammalian-Animal Cell: Germ	Negative
	487 <i>In vitro</i> Micronucleus Test	Experiment: In vitro Subject: Mammalian-Animal	Negative

Carcinogenicity

Product/ingredient name	CAS #	IARC	NTP	OSHA
Diethylhexylphosphate	298-07-7	Not classified.	Not classified.	Not classified.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Diethylhexylphosphate	Category 1	Not determined	lungs

Section 12. Ecological information

Toxicity

Product/ingredient name	Test	Result	Species	Exposure
Diethylhexylphosphate	OECD 201 Freshwater Alga and Cyanobacteria, Growth Inhibition Test *Test results on an analogous product	Acute EC50 >100 mg/l	Algae - Desmodesmus subspicatus	72 hours
	OECD 209 Activated Sludge, Respiration Inhibition Test	Acute EC50 890.2 mg/l Fresh water	Bacteria - Activated sludge	3 hours
	-	Acute EC50 60.7 mg/l	Daphnia - Daphnia magna	48 hours
	-	Acute LC50 30 mg/l	Fish - Oncorhynchus mykiss	96 hours
	OECD 201 Freshwater Alga and Cyanobacteria, Growth Inhibition Test *Test results on an analogous product	Chronic EC10 50 mg/l	Algae - Desmodesmus subspicatus	72 hours
	-	Chronic NOEC 20.6 mg/l	Fish - Oncorhynchus mykiss	48 days

Conclusion/Summary : Not available.

Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Diethylhexylphosphate	176A/90R 301F Ready Biodegradability - Manometric Respirometry Test	75 % - Readily - 28 days	-	-

Conclusion/Summary : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Diethylhexylphosphate	-	-	Readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Diethylhexylphosphate	2.67	6	low

Mobility in soil

**Soil/water partition
coefficient (K_{oc})** : 2.4




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. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Waste disposal should be in accordance with existing federal state, provincial and or local environmental controls laws.

RCRA classification : : When discarded in its purchased form, this product meets the criteria of corrosivity, and should be managed as a hazardous waste (EPA Hazardous Waste Number D002). (40 CFR 261.20-24)

Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	UN1902	DIISOCTYL ACID PHOSPHATE	8	III		IB3, T4, TP1
IMDG Class	UN1902	DIISOCTYL ACID PHOSPHATE	8	III		Emergency schedules (EmS) F-A, S-B
IATA-DGR Class	UN1902	DIISOCTYL ACID PHOSPHATE	8	III		Passenger aircraft 852: 5 L Cargo aircraft 856: 60 L

PG* : Packing group

RQ : 0 lbs

Section 15. Regulatory information

SARA 311/312 : Immediate (acute) health hazard

SARA Title III Section 302 Extremely Hazardous Substances : None

SARA Title III Section 313 Toxic Chemicals : None

US EPA CERCLA Hazardous Substances (40 CFR 302) : None

State regulations

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections on the SDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

<u>Ingredient name</u>	<u>CAS number</u>	<u>State Code</u>	<u>Concentration (%)</u>
Diethylhexylphosphate	298-07-7	NJ - HS	

Section 15. Regulatory information

Massachusetts Substances: MA - S

Massachusetts Extraordinary Hazardous Substances: MA - Extra HS

New Jersey Hazardous Substances: NJ - HS

Pennsylvania RTK Hazardous Substances: PA - RTK HS

Pennsylvania Special Hazardous Substances: PA - Special HS

California Prop. 65

To the best of our knowledge, this product does not contain any of the listed chemicals, which the state of California has found to cause cancer, birth defects or other reproductive harm.

U.S. Toxic Substances Control Act : Listed on the TSCA Inventory.

Section 16. Other information

Hazardous Material Information System	Health	3
	Flammability	1
	Physical hazards	0

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme
*=Chronic

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

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



0= Minimal 1=Slight 2=Moderate 3=Serious 4=Severe

LANXESS' method of hazard communication is comprised of Product Labels and Safety Data Sheets. HMIS and NFPA ratings are provided by LANXESS as a customer service.

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Product Safety and Regulatory Affairs

Indicates information that has changed from previously issued version.

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