SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	AMPHISOL®
Substance name	:	1-Hexadecanol, phosphate, compd. with 2,2'-iminobis[ethanol] (1:1)
CAS-No.	:	69331-39-1

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

Use of the Substance/Mixture	:	Emulsifier, Stabilizer, Ingredient for personal care products

1.3 Details of the supplier of the safety data sheet

Company	:	DSM Nutritional Products 45 Waterview Blvd US-07054-1298 Parsippany
Telephone	:	(908) 475-7373
Telefax	:	(908) 475-7406
E-mail address	:	sds.nutritionalproducts@dsm.com
Responsible/issuing person		

1.4 Emergency telephone number

Emergency # 1-800-424-9300 (24 HR CHEMTREC)

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

CAUTION	
Appearance	powder
Colour	white, beige
Odour	odourless

GHS Classification

Combustible dust	:	
Eye irritation	:	Category 2A

GHS Label element

Hazard pictograms	:	
Signal word	:	Warning
Hazard statements	:	May form combustible dust concentrations in air H319 Causes serious eye irritation.
Precautionary statements	:	**Prevention:** P264 Wash skin thoroughly after handling. P280 Wear protective gloves/ eye protection/ face protection. **Response:** P305 + P351 + P338 IF IN EYES: Rinse cautiously with water

for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/ attention.

Potential Health Effects

Eyes : May cause eye irritation.

Aggravated Medical Condition : None known.

Symptoms of Overexposure : No specific symptoms known.

Carcinogenicity:

IARC No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

OSHA No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Additional hazards and advice

Risk of dust explosion.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : DEA-cetyl phosphate (INCI)

Brief description of the product : Substance

Molecular formula : C16H34O4P • C4H12NO2

Hazardous components

Component	CAS-No.	Weight percent
1-Hexadecanol, phosphate, compd. with 2,2'-iminobis[ethanol] (1:1)	69331-39-1	99 - 100

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.

If inhaled : Move to fresh air.
Consult a physician after significant exposure.

In case of skin contact	:	Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. If symptoms persist, call a physician.
In case of eye contact	:	Immediately flush eye(s) with plenty of water. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	:	Clean mouth with water and drink afterwards plenty of water. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. Obtain medical attention.
Most important symptoms and effects, both acute and delayed	:	No specific symptoms known.
Notes to physician	:	Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Flammable properties

Flash point	:	Not applicable

Fire fighting

Suitable extinguishing media	:	Water Foam
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Consider dust explosion hazard.

Protective equipment and precautions for firefighters

Specific hazards during firefighting	:	None known.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Ensure adequate ventilation. Avoid dust formation. Avoid breathing dust.
Environmental precautions	:	Try to prevent the material from entering drains or water courses.
Methods and materials for	:	Pick up and arrange disposal without creating dust.

containment and cleaning up

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area.
Advice on protection against fire and explosion	:	Avoid dust formation. Provide appropriate exhaust ventilation at places where dust is formed. Take measures to prevent the build up of electrostatic charge.
Conditions for safe storage	:	Protect from humidity. Protect against light. Keep container tightly closed and dry.
Storage temperature	:	< 77 °F (< 25 °C)

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection	:	In the case of dust or aerosol formation use respirator with an approved filter.
Hand protection	:	Glove material: for example nitrile rubber
Eye protection	:	Safety glasses with side-shields
Skin and body protection	:	Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	:	powder
Colour	:	white - beige
Odour	:	odourless
Odour Threshold	:	No information available.
pH	:	6.0 - 7.5 (10 g/l)
Melting point/range	:	89 - 92 °C

Boiling point/boiling range	:	not determined
Flash point	:	Not applicable
Flammability (solid, gas)	:	May form combustible dust concentrations in air
Vapour pressure	:	not determined
Relative vapour density	:	Not applicable
Density	:	not determined
Water solubility	:	0.194 g/l (20 °C) dispersible
Solubility in other solvents	:	Oils and fats: (ca. 80 °C) easily soluble Ethanol: soluble Isopropanol: soluble
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No self ignition observed in the Grewer oven at temperatures below melting point.
Thermal decomposition	:	Decomposes on heating. Potential for exothermic hazard
Explosive properties	:	Not explosive
Oxidizing properties	:	No data available

9.2 Other information

Combustibility index for deposited dust	:	3 (ca. 21 °C)
Dust explosion class	:	St(H)1 (Product sample, Median value of the tested sample 0.027 mm; The value was determined in the modified Hartmann tube.)
Minimum ignition energy	:	100 - 300 mJ (Product sample, Median value of the tested sample 0.027 mm) The Minimum ignition energy (MIE) of a dust/air mix depends on the particle size the water content and the temperature of the dust. The finer and the dryer the dust the lower the MIE.
	:	General remark: The indicated dust explosion characteristics are only valid for this product and are sensitive to the sample's parameters.
Minimum ignition temperature of a dust/air mix	:	ca. 270 °C (Median value of the tested sample 0.027 mm) determined in the BAM oven
Molecular weight	:	427.56 g/mol
Acid number (mg KOH/g)	:	230 - 255 mg/g

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No hazards to be specially mentioned.
Chemical stability	:	Stable under recommended storage conditions.
Possibility of hazardous reactions	:	Dust may form explosive mixture in air.
Conditions to avoid	:	Heat.
Incompatible materials	:	Strong acids and strong bases Strong oxidizing agents
Hazardous decomposition products	:	No decomposition if used as directed.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg
Acute dermal toxicity	:	LD50 (Rat): > 3,000 mg/kg
Skin irritation	:	no phototoxic skin reaction (Guinea pig, CTFA Test Guideline)
	:	No skin irritation (human)
Eye irritation	:	Irritating to eyes. (Rabbit)
Sensitisation	:	Did not cause sensitisation on laboratory animals. (Guinea pig, Maximisation Test (GPMT), OECD Test Guideline 406)
	:	no photoallergenic skin reaction (Guinea pig, CTFA Test Guideline)
	:	Did not cause sensitization. (human)
	:	no photoallergenic skin reaction (human)
Carcinogenicity	:	This information is not available.
Genotoxicity in vitro	:	not mutagenic (Ames test)
Reproductive toxicity	:	This information is not available.
STOT - single exposure (Acute exposure)	:	The substance or mixture is not classified as specific target organ toxicant, single exposure.
STOT - repeated exposure	:	The substance or mixture is not classified as specific target

(Chronic exposure)		organ toxicant, repeated exposure.
Further information	:	The product passes into and partly through the skin of rats and pigs.
	:	May cause irritation of respiratory tract.
Aspiration toxicity	:	No aspiration toxicity classification

SECTION 12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish	:	Oncorhynchus mykiss (rainbow trout) LC50 > 500 mg/l (nominal concentration)
Toxicity to bacteria	:	activated sludge Concentration of the substance 100 mg/l (nominal concentration) No inhibition was observed under the biodegradation test conditions. (OECD Test Guideline 301C)

Persistence and degradability

Biodegradability	:	Not readily biodegradable. 36 % (28 d) (OECD Test Guideline 301F)
	:	Inherently biodegradable. 79 % (28 d) (OECD Test Guideline 302C)

Bioaccumulative potential

Partition coefficient: n-octanol/water	:	No data available

Mobility in soil

Distribution among environmental compartments	:	No data available

Results of PBT and vPvB assessment

Assessment	:	The substance does not fullfill the PBT criteria.
	:	The substance does not fullfill the vPvB criteria.

Other adverse effects

Regulation	40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks	This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act

Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : There is no data available for this product.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Do not contaminate ponds, waterways or ditches with chemical or used container.
Do not dispose of waste into sewer.
Offer surplus and non-recyclable solutions to a licensed disposal company.

User must determine if any wastes generated exhibit hazardous characteristics as per 40 CFR Part 261 or other national / local legislation.

Contaminated packaging : Dispose of as unused product.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulation

UNRTDG
Not regulated as a dangerous good

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

National Regulations

49 CFR
Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION

TSCA list : Not relevant

Not relevant

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Acute Health Hazard

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.
This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.
This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

Massachusetts Right To Know

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know

1-Hexadecanol, phosphate, compd. with 2,2'-iminobis[ethanol] (1:1)	69331-39-1	90 - 100 %

New Jersey Right To Know

1-Hexadecanol, phosphate, compd. with 2,2'-iminobis[ethanol] (1:1)	69331-39-1	90 - 100 %

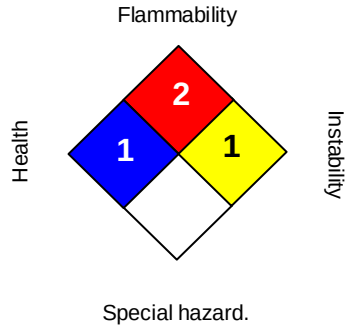
The components of this product are reported in the following inventories:

TSCA : On TSCA Inventory

SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS III:

HEALTH	2
FLAMMABILITY	2
PHYSICAL HAZARD	1

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Abbreviations: ACGIH = American Conference of Governmental Industrial Hygienists. CERCLA = Comprehensive Environmental Response, Compensation and Liability Act. CFR = Code of Federal Regulations. CPR = Controlled Products Regulations. DSL = Canadian Domestic Substance List. DOT = Department of Transportation. EINECS = European Inventory of New and Existing Chemical Substances. EPA = Environmental Protection Agency. HCS = Hazardous Communication Standard. HEPA = High Efficiency Particulate Air. HMIS = Hazardous Material Identification System. IARC = International Agency for Research on Cancer. IATA = International Air Transport Association. IMDG = International Maritime Dangerous Good. NFPA = National Fire Protection Association. NIOSH = National Institute of Occupational Safety and Health. NJTSR = New Jersey Trade Secret Registry. NTP = National Toxicology Program. OSHA = Occupational Safety and Health Administration. SARA = Superfund Amendments and Reauthorization Act. TDG = Transportation of Dangerous Goods. TLV = Threshold Limit Value. TSCA = Toxic Substance Control Act. WHMIS = Workplace Hazardous Materials Information System.