SECTION 1. IDENTIFICATION

Product name	:	AMPHISOL® K
Substance name	:	1-Hexadecanol, 1-(dihydrogen phosphate), potassium salt (1:1)

Manufacturer or supplier's details

Company name of supplier	:	DSM Nutritional Products Ltd.
Address	:	PO Box 2676 Basel 4002
Telephone	:	+41618158888
Emergency telephone number	:	+41 848 00 11 77 (Carechem 24 International)
E-mail address of person responsible for the SDS	:	sds.nutritionalproducts@dsm.com

Recommended use of the chemical and restrictions on use

Recommended use	:	**Emulsifier** **Ingredient for personal care products**

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Combustible dust

Serious eye damage	:	Category 1

GHS label elements

Hazard pictograms :

Signal word	:	Danger
Hazard statements	:	May form combustible dust concentrations in air. H318 Causes serious eye damage.
Precautionary statements	:	**Prevention:** P280 Wear eye protection/ face protection. **Response:** P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

Other hazards

Risk of dust explosion.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Brief description of the product	:	Substance
Synonyms	:	potassium cetyl phosphate (INCI)
CAS-No.	:	19035-79-1
Molecular formula	:	C16-H34-O4-P .K

Hazardous components

Component	CAS-No.	Weight percent
potassium hexadecyl hydrogen phosphate	19035-79-1	50 - 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.
In case of eye contact	:	In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. Continue rinsing eyes during transport to hospital. Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
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. Do NOT induce vomiting.
Most important symptoms and effects, both acute and delayed	:	No specific symptoms known.
Notes to physician	:	Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Water Foam
Specific hazards during firefighting	:	None known.

Further information	:	Consider dust explosion hazard.
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	:	Evacuate personnel to safe areas. Use personal protective equipment. Ensure adequate ventilation. Avoid dust formation. Avoid breathing dust.
Environmental precautions	:	Do not flush into surface water or sanitary sewer system.
Methods and materials for containment and cleaning up	:	Pick up and arrange disposal without creating dust.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Avoid dust formation. Provide appropriate exhaust ventilation at places where dust is formed. Take precautionary measures against static discharges.
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.
Conditions for safe storage	:	To maintain product quality, do not store in heat or direct sunlight. Keep container tightly closed and dry.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Hazardous components without workplace control parameters

Components	CAS-No.
potassium hexadecyl hydrogen phosphate	19035-79-1

Personal protective equipment

Respiratory protection	:	In the case of dust or aerosol formation use respirator with an approved filter.
Hand protection		
Material	:	for example nitrile rubber
Remarks	:	Consider the hazard characteristics of this product and any special workplace conditions when selecting the appropriate type of protective gloves. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Eye protection	:	Safety glasses with side-shields Wear face-shield and protective suit for abnormal processing problems.
Skin and body protection	:	Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Hygiene measures	:	Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	:	powder
Colour	:	white - beige
Odour	:	odourless
Odour Threshold	:	No information available.
pH	:	6.5 - 8.5 (1%) (as aqueous solution)
Melting point/range	:	153 - 157 °C (OECD Test Guideline 102)
Boiling point/boiling range	:	> 400 °C (1,013 hPa; OECD Test Guideline 103) Decomposes below the boiling point.
Flash point	:	Not applicable
Flammability (solid, gas)	:	not highly flammable May form combustible dust concentrations in air.
Vapour pressure	:	< 0.001 hPa (20 °C; OECD Test Guideline 104)
Density	:	1.166 g/cm3 (20 °C; OECD Test Guideline 109)
Water solubility	:	0.198 g/l (20 °C; OECD Test Guideline 105)
Solubility in other solvents	:	Oils and fats: (ca. 85 °C) soluble
Partition coefficient: n-octanol/water	:	log Pow 6.65 (20 °C; calculated value)
Auto-ignition temperature	:	No self ignition observed in the Grewer oven at temperatures below melting point.
Ignition temperature	:	> 752 °F (> 400 °C)
Thermal decomposition	:	Decomposes on heating. Potential for exothermic hazard
Explosive properties	:	Not explosive
Oxidizing properties	:	Not oxidizing

Other information

Combustibility index for deposited dust	:	5 (ca. 21 °C)
Dust explosion properties	:	KSt value: 177 bar·m/s (Milled sample, Median value of the tested sample 0.62 mm, Loss on drying 2.5 %; ISO 6184)
Dust explosion class	:	St1 (Milled sample, Median value of the tested sample 0.062

mm, Loss on drying 2.5 %; ISO 6184)

Maximum explosion over-pressure	:	6.8 bar (Milled sample, Median value of the tested sample 0.062 mm, Loss on drying 2.5 %; ISO 6184)
Minimum ignition energy	:	10 - 30 mJ (Milled sample, Median value of the tested sample 0.064 mm, Loss on drying 2.5 %) 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.
Powder volume resistivity	:	ca. 1E+06 Ohmm (Product sample, Median value of the tested sample 0.143 mm, Loss on drying 2.5 %)
Minimum ignition temperature of a dust/air mix	:	ca. 310 °C determined in the BAM oven
Molecular weight	:	360.51 g/mol
Particle size	:	Median value of the tested sample 0.213 mm (Laser diffraction)
Acid number (mg KOH/g)	:	130 - 155 mg/g
Surface tension	:	64.1 mN/m (20 °C, OECD Test Guideline 115)

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): > 2,000 mg/kg

(OECD Test Guideline 402)

Skin irritation	:	No skin irritation (Rabbit, OECD Test Guideline 404)
	:	No skin irritation (human, Patch Test 24 Hrs.)
	:	not phototoxic (Guinea pig)
Eye irritation	:	Mild eye irritation (Rabbit, OECD Test Guideline 405, 10% solution) temporary redness
	:	Risk of serious damage to eyes. (Rabbit, OECD Test Guideline 405)
Sensitisation	:	Did not cause sensitization. (Guinea pig, Buehler Test, OECD Test Guideline 406)
	:	Did not cause sensitization. (human)
	:	no photoallergenic skin reaction (Guinea pig, CTFA Test Guideline)
Genotoxicity in vitro	:	not mutagenic (Ames test)

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.
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.

STOT - single exposure (Acute exposure)	:	The substance or mixture is not classified as specific target organ toxicant, single exposure.
STOT - repeated exposure	:	NOAEL (Oral, Rat) : 800 mg/kg bw/d Sub-chronic toxicity study (90-day)
Further information	:	The product passes into and partly through the skin of rats and pigs.
Aspiration toxicity	:	No aspiration toxicity classification

SECTION 12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish	:	Oncorhynchus mykiss (rainbow trout) LC0 (96 h) 100 mg/l No toxicity at the limit of solubility (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	:	Daphnia magna (Water flea) NOEC (48 h) > 100 mg/l No toxicity at the limit of solubility (OECD Test Guideline 202)
Toxicity to algae	:	Pseudokirchneriella subcapitata (green algae) NOEC > 100 mg/l No toxicity at the limit of solubility (OECD Test Guideline 201)
Toxicity to bacteria	:	activated sludge NOEC > 100 mg/l (nominal concentration) (OECD Test Guideline 209)

Persistence and degradability

Biodegradability	:	Not readily biodegradable. 37 % (28 d) (OECD Test Guideline 310)
	:	Inherently biodegradable. 86 % (28 d) (OECD Test Guideline 302C)
Stability in water	:	(pH 7, OECD Test Guideline 111) Stable
	:	(pH 9) Stable

Bioaccumulative potential

Partition coefficient: n-octanol/water	:	log Pow 6.65 (20 °C ; calculated value)

Mobility in soil

Distribution among environmental compartments	:	No data available
Surface tension	:	64.1 mN/m (20 °C, OECD Test Guideline 115)

Results of PBT and vPvB assessment

Assessment	:	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Other adverse effects

Regulation	40 CFR Protection of Environment; Part 82 Protection of

Remarks	Stratospheric Ozone - CAA Section 602 Class I Substances 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	:	User must determine if any wastes generated exhibit hazardous characteristics as per 40 CFR Part 261 or other national / local legislation. 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.
Contaminated packaging	:	Dispose of as unused product. Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulations

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

Remarks : Not classified as dangerous in the meaning of transport regulations.

SECTION 15. REGULATORY INFORMATION

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 : Fire Hazard

Acute Health Hazard

SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

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 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).
This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (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).
The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):

hexadecan-1-ol	36653-82-4	2 %

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

US State Regulations

Massachusetts Right To Know

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

Pennsylvania Right To Know

potassium hexadecyl hydrogen phosphate	19035-79-1

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

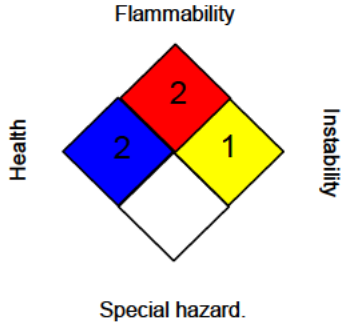
Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - In-

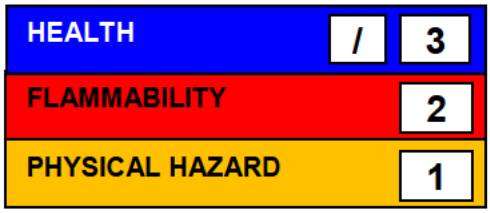
ternational Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative
ACGIH = American Conference of Governmental Industrial Hygienists. CFR = Code of Federal Regulations. EPA = Environmental Protection Agency. NIOSH = National Institute of Occupational Safety and Health. OSHA = Occupational Safety and Health Administration. STEL = Short term exposure limit. TLV = Threshold Limit Value. TWA = Time Weighted Average.

Further information

NFPA:



HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Revision Date : 06/19/2017

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