

AMPHISOL® K

0452130

Version 4.4

Revision Date 03/03/2025

Date of last issue: 09/02/2022

**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 LLC

Address : 250 Plainsboro Road  
Plainsboro NJ 08536

Telephone : (609) 452-1000

Emergency telephone number : 1-800-424-9300 (24 HR CHEMTREC, CA & US); Outside CA & US +1-703-572-3887 (COLLECT CALLS ACCEPTED)

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 the OSHA Hazard Communication Standard (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.

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**Other hazards**

Risk of dust explosion.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Synonyms : potassium cetyl phosphate (INCI)

Molecular formula : C16-H34-O4-P .K

Brief description of the product : Substance

Substance name : 1-Hexadecanol, 1-(dihydrogen phosphate), potassium salt (1:1)

CAS-No. : 19035-79-1

**Hazardous components**

| Chemical name                          | CAS-No.    | Concentration (% w/w) |
|----------------------------------------|------------|-----------------------|
| potassium hexadecyl hydrogen phosphate | 19035-79-1 | > 75 - <= 100         |

Actual concentration is withheld as a trade secret

**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 : Rinse mouth with 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 : Causes serious eye damage.

Notes to physician : Treat symptomatically.

**SECTION 5. FIREFIGHTING MEASURES**

Suitable extinguishing media : Water

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Foam

- Specific hazards during fire-fighting : 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.

**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.

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| Eye protection           | : Safety glasses with side-shields<br>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.<br>Wash hands before breaks and immediately after handling the product. |

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**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%)<br>(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)<br>Decomposes below the boiling point. |
| Flash point                            | : Not applicable                                                                       |
| Flammability (solid, gas)              | : not highly flammable<br>May form combustible dust concentrations in air.             |
| Vapour pressure                        | : < 0.001 hPa (20 °C; OECD Test Guideline 104)                                         |
| Density                                | : 1.166 g/cm <sup>3</sup> (20 °C; OECD Test Guideline 109)                             |
| Water solubility                       | : 18.6 mg/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 2.66 (25 °C; OECD Test Guideline 123)                                        |
| Self-ignition                          | : No self ignition observed in the Greiner oven at temperatures below melting point.   |
| Auto-ignition temperature              | : > 752 °F (> 400 °C)                                                                  |
| Decomposition temperature              | : Decomposes on heating.<br>Potential for exothermic hazard                            |

**Other information**

|                                         |                                                                                                                     |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Explosive properties                    | : Not explosive                                                                                                     |
| Oxidizing properties                    | : Not oxidizing                                                                                                     |
| 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) |

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|                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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| 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 %)<br>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.<br>: 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<br>determined in the BAM oven                                                                                                                                                                                                                                                                                                                                                                                                |
| Molecular weight                               | : 360.5 g/mol                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Particle size                                  | : Median value of the tested sample 0.213 mm (OECD Test Guideline 110)                                                                                                                                                                                                                                                                                                                                                                    |
| 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<br>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<br>(OECD Test Guideline 402) |
| Skin irritation       | : No skin irritation (Rabbit, OECD Test Guideline 404)   |

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|                                         |                                                                                                                                                         |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                         | : No skin irritation (Human, Patch Test 24 Hrs.)                                                                                                        |
|                                         | : not phototoxic (Guinea pig)                                                                                                                           |
| Eye irritation                          | : Risk of serious damage to eyes. (Rabbit, OECD Test Guideline 405)                                                                                     |
|                                         | : No eye irritation (Rabbit, OECD Test Guideline 405, 10% solution)<br>temporary redness                                                                |
| Sensitisation                           | : Did not cause sensitization. (Guinea pig, Buehler Test, OECD Test Guideline 406)                                                                      |
|                                         | : Did not cause sensitization. (Humans)                                                                                                                 |
|                                         | : 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 on OSHA's list of regulated carcinogens.                                |
| 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<br>Sub-chronic toxicity study (90-day)                                                                             |
| Aspiration toxicity                     | : No aspiration toxicity classification                                                                                                                 |

**Further information****Product:**

|         |                                                                         |
|---------|-------------------------------------------------------------------------|
| Remarks | : The product passes into and partly through the skin of rats and pigs. |
|---------|-------------------------------------------------------------------------|

**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 2.66 ( 25 °C ; OECD Test Guideline 123)

**Mobility in soil**

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

**Other adverse effects****Product:**

- Ozone-Depletion Potential : 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.

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

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

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**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.

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**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

**Special precautions for user**

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

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**SECTION 15. REGULATORY INFORMATION****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 302 Extremely Hazardous Substances Threshold Planning Quantity**

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

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**SARA 311/312 Hazards** : Combustible dust  
Serious eye damage or eye irritation

**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 SOCM I Intermediate or Final VOC's (40 CFR 60.489):

|                |            |              |
|----------------|------------|--------------|
| hexadecan-1-ol | 36653-82-4 | >= 1 - < 5 % |
|----------------|------------|--------------|

**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

This product does not contain any priority pollutants related to the U.S. Clean Water Act

**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 |
|----------------------------------------|------------|

**Maine Chemicals of High Concern**

Product does not contain any listed chemicals

**Vermont Chemicals of High Concern**

Product does not contain any listed chemicals

**Washington Chemicals of High Concern**

Product does not contain any listed chemicals

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

TCSI : On the inventory, or in compliance with the inventory

TSCA : All substances listed as active on the TSCA inventory

AIIC : On the inventory, or in compliance with the inventory

DSL : None of the components of this product are on the Canadian DSL, but all are on the NDSL

potassium hexadecyl hydrogen phosphate

ENCS : On the inventory, or in compliance with the inventory

ISHL : On the inventory, or in compliance with the inventory

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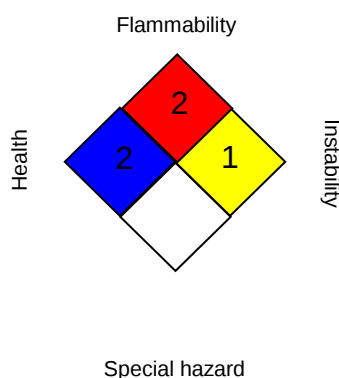
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|       |                                                         |
|-------|---------------------------------------------------------|
| KECI  | : Not in compliance with the inventory                  |
| PICCS | : Not in compliance with the inventory                  |
| IECSC | : On the inventory, or in compliance with the inventory |
| NZIoC | : Not in compliance with the inventory                  |
| TECI  | : Not in compliance with the inventory                  |

**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****Further information****NFPA 704:****HMIS® IV:**

|                        |          |          |
|------------------------|----------|----------|
| <b>HEALTH</b>          | <b>/</b> | <b>3</b> |
| <b>FLAMMABILITY</b>    |          | <b>2</b> |
| <b>PHYSICAL HAZARD</b> |          | <b>1</b> |

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.

**Full text of other abbreviations**

AIIC - Australian Inventory of Industrial Chemicals; 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 - International 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;

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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; TECI - Thailand Existing Chemicals 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. TLV-C = Ceiling Limit Value. TWA = Time Weighted Average.

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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.

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