



## Safety Data Sheet

according to Hazard Communication Standard (HCS) (29 CFR 1910.1200(g))

Designation / Trade name: PAb Anti-phospho MEK1/2-Eu cryptate - 10,000 tests 61P17KAZ  
Version: US, Page 2 of 11, Revision date: 21/05/2019

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Hazard pictograms

Signal word:

Hazard and precautionary statements:

### **2.3 Other hazards**

The mixture does not contain substances classified as 'Substances of Very High Concern' (SVHC)  $\geq$  0.1% published by the European Chemicals Agency (ECHA) under article 57 of REACH. The mixture satisfies neither the PBT nor the vPvB criteria for mixtures in accordance with annexe XIII of the REACH regulations EC 1907/2006. ;

Adverse human health effects:

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Designation / Trade name: PAb Anti-phospho MEK1/2-Eu cryptate - 10,000 tests 61P17KAZ  
Version: US, Page 3 of 11, Revision date: 21/05/2019



### Section 3 : Composition/information on ingredients

#### 3.2 Mixtures

Hazardous ingredients:

Substance name	CAS n°	Index n°	EC n°	Classification in accordance with 29 CFR 1910 (OSHA HCS)	Concentration (%)	SCL	M-factor
4-(2-hydroxyethyl)piperazin-1-ylethanesulphonic acid	7365-45-9		230-907-9		< 3%		

Additional information:

Full text of H- and EUH-phrases: see SECTION 16.

### Section 4 : First aid measures

#### 4.1 Description of first aid measures

**General information:** Do not leave affected person unattended. ;

**Following inhalation:** In case of respiratory tract irritation, consult a physician. ;

**Following skin contact:** After contact with skin, wash immediately with water ;

**Following eye contact:** After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately. ;

**Following ingestion:** Do NOT induce vomiting. ;

**Self-protection of the first aider:**

#### 4.2 Most important symptoms and effects, both acute and delayed

Symptoms: No known symptoms to date. ;

Effects:

#### 4.3 Indication of any immediate medical attention and special treatment needed

Notes for the doctor:

### Section 5 : Firefighting measures

#### 5.1 Extinguishing media:

Suitable extinguishing media: This product is not flammable. Use extinguishing agent suitable for type of surrounding fire ;

#### 5.2 Special hazards arising from the substance or mixture

Hazardous combustion products: /

#### 5.3 Advice for fire-fighters

Wear Protective clothing. ;

Additional information:

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Designation / Trade name: PAb Anti-phospho MEK1/2-Eu cryptate - 10,000 tests 61P17KAZ  
Version: US, Page 4 of 11, Revision date: 21/05/2019



### Section 6 : Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

Emergency procedures: Provide adequate ventilation.;

#### 6.2 Environmental precautions

Do not allow to enter into surface water or drains.;

#### 6.3 Methods and material for containment and cleaning up

For cleaning up: Suitable material for taking up: Absorbing material, organic ;  
Other information:

#### 6.4 Reference to other sections

Additional information:

### Section 7 : Handling and storage

#### 7.1 Precautions for safe handling

Protective measures:

Advice on safe handling: Avoid contact with skin, eyes and clothes. ;

Fire preventions:

Do not eat, drink or smoke in areas where reagents are handled.;

Advice on general occupational hygiene: Handle in accordance with good industrial hygiene and safety practice ;

#### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels: Keep container tightly closed. ;

Hints on storage assembly:

Materials to avoid:

Further information on storage conditions:

#### 7.3 Specific end uses:

Recommendations on specific end uses: Observe technical data sheet.;

### Section 8 : Exposure controls/personal protection

#### 8.1 Control parameters

Preliminary remark:

##### 8.1.1 Occupational exposure limits:

- OSHA (USA)

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Designation / Trade name: PAb Anti-phospho MEK1/2-Eu cryptate - 10,000 tests 61P17KAZ

Version: US, Page 5 of 11, Revision date: 21/05/2019

Substance	EC-No.	CAS-No	OSHA Permissible Exposure Limit (PEL) 8-hour TWA (ppm)	OSHA Permissible Exposure Limit (PEL) 8-hour TWA (mg/m3)	OSHA Permissible Exposure Limit (PEL) STEL (ppm)	OSHA Permissible Exposure Limit (PEL) STEL (mg/m3)
7365-45-9 / 230-907-9	230-907-9	7365-45-9				

Source :	TRGS 903, November 2015, BAuA				
Substance	EC-No.	CAS-No	BGW (mg/m3)	BGW (ppm)	
7365-45-9 / 230-907-9	230-907-9	7365-45-9			

### 8.1.2 DNEL/PNEC-values:

- DNEL worker

Source :	GESTIS – substance database								
Substance	EC-No.	CAS-No	Acute – dermal, local effects (mg/kg/day)	Long-term – dermal, local effects (mg/kg/day)	Long-term – dermal, systemic effects (mg/kg/day)	Acute – inhalation, local effects (mg/m3)	Acute – inhalation, systemic effects (mg/m3)	Long-term – inhalation, local effects (mg/m3)	Long-term – inhalation, systemic effects (mg/m3)
7365-45-9 / 230-907-9	230-907-9	7365-45-9					23.5-23.5		

- DNEL consumer

Source :	GESTIS – substance database								
Substance	EC-No.	CAS-No	Acute – dermal, local effects (mg/kg/day)	Long-term – dermal, local effects (mg/kg/day)	Long-term – dermal, systemic effects (mg/kg/day)	Acute – inhalation, local effects (mg/m3)	Acute – inhalation, systemic effects (mg/m3)	Long-term – inhalation, local effects (mg/m3)	Long-term – inhalation, systemic effects (mg/m3)
7365-45-9 / 230-907-9	230-907-9	7365-45-9							

- PNEC

Source :	INERIS																		
Substance	EC-No.	CAS-No	PNEC AQUATIC									PNEC Sediment							
			freshwater			marine water			intermittent release			freshwater		marine water					
			(mg/L)	(mg/kg)	(ppm)	(mg/L)	(mg/kg)	(ppm)	(mg/L)	(mg/kg)	(ppm)	(mg/L)	(mg/kg)	(ppm)	(mg/L)	(mg/kg)	(ppm)		
7365-45-9 / 230-907-9	230-907-9	7365-45-9																	

Source :	INERIS						
Substance	EC-No.	CAS-No	Others				
			PNEC soil	PNEC sewage treatment plant	PNEC air	PNEC secondary poisoning	

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according to Hazard Communication Standard (HCS) (29 CFR 1910.1200(g))



Designation / Trade name: PAb Anti-phospho MEK1/2-Eu cryptate - 10,000 tests 61P17KAZ

Version: US, Page 6 of 11, Revision date: 21/05/2019

			(mg/L)	(mg/kg)	(ppm)	(mg/L)	(mg/kg)	(ppm)	(mg/L)	(mg/kg)	(ppm)	(mg/L)	(mg/kg)	(ppm)
7365-45-9/ 230-907-9	230-907-9	7365-45-9												

### 8.2 Exposure controls

#### 8.2.1 Appropriate engineering controls:

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. See section 7

#### 8.2.2 Personal protective equipment:

Eye / Face protection: Safety glasses with side-shields ;

Skin protection:Gloves ;

Respiratory protection:Ensure adequate ventilation ;

Thermal hazards:

#### 8.2.3 Environmental exposure controls:

Consumer exposure control

Measures related to consumer uses of the substance (as such or in mixtures):

Measures related to the service life of the substance in articles:

## Section 9 : Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

Physical state	Liquid ;
Colour	Colorless ;
Odour	
Odour threshold (ppm)	

	Value	Concentration (mol/L)	Method	Temperature (°C)	Pressure (kPa)	Remark
pH	7					
Melting point (°C)						
Freezing point (°C)						
Initial boiling point/boiling range (°C)						
Flash point (°C)						
Evaporation rate (kg/m <sup>2</sup> /h)						
Flammability (type : ) (%)						
Upper/lower flammability or explosive limits	Upper explosive limit (%)					
	Lower explosive limit (%)					
Vapour pressure (kPa)						
Vapour density (g/cm <sup>3</sup> )						
Densities	Density (g/cm <sup>3</sup> )					
	Relative density (g/cm <sup>3</sup> )					
	Bulk density (g/cm <sup>3</sup> )					
	Critical density (g/cm <sup>3</sup> )					
Solubility (Type : ) (g/L)						
Partition coefficient (log Pow) n-octanol/water at pH :						
Auto-ignition temperature (°C)						
Decomposition temperature (°C)						
Decomposition energy : kj						
Viscosity	Viscosity, dynamic (poiseuille)					
	Viscosity, cinematic (cm <sup>2</sup> /s)					
Explosive properties						

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Designation / Trade name: PAb Anti-phospho MEK1/2-Eu cryptate - 10,000 tests 61P17KAZ  
Version: US, Page 7 of 11, Revision date: 21/05/2019



Oxidising properties						
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### 9.2 Other information:

No other relevant data available

## Section 10 : Stability and reactivity

### 10.1 Reactivity

This material is considered to be non-reactive under normal use conditions. ;

### 10.2 Chemical stability

### 10.3 Possibility of hazardous reactions

### 10.4 Conditions to avoid:

### 10.5 Incompatible materials:

### 10.6 Hazardous decomposition products:

Does not decompose when used for intended uses. ;

## Section 11 : Toxicological information

Toxicokinetics, metabolism and distribution

### 11.1 Information on toxicological effects

#### Substances

- **Acute toxicity**

#### Animal data:

Acute oral toxicity:

Acute dermal toxicity:

Acute inhalative toxicity:

Practical experience / human evidence:

Assessment / Classification:

General Remark:

- **Skin corrosion/irritation**

#### Animal data:

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Designation / Trade name: PAb Anti-phospho MEK1/2-Eu cryptate - 10,000 tests 61P17KAZ  
Version: US, Page 8 of 11, Revision date: 21/05/2019



In-vitro skin test method:

In-vitro skin test result:

Assessment / Classification:

- **Eye damage/irritation**

### Animal data:

In vitro eye test method:

In vitro eye test result:

Assessment / Classification:

- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
  - Germ cell mutagenicity:

Animal data:

Assessment / Classification:

- Carcinogenicity

Practical experience / human evidence:

Animal data:

Other information:

Assessment / Classification:

- Reproductive toxicity

Practical experience / human evidence:

Animal data:

Other information:

Assessment / Classification:

Overall assessment on CMR properties:

- **Specific target organ toxicity (single exposure)**
  - STOT SE 1 and 2

Animal data:

Other information:

- STOT SE 3

Practical experience / human evidence:

Other information:

Assessment / Classification:

- **Specific target organ toxicity (repeated exposure)**



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Designation / Trade name: PAb Anti-phospho MEK1/2-Eu cryptate - 10,000 tests 61P17KAZ  
Version: US, Page 9 of 11, Revision date: 21/05/2019



Practical experience / human evidence:  
Animal data:

Assessment / Classification:  
Other information

- **Aspiration hazard**

Practical experience / human evidence:  
Experimental data: viscosity data: see SECTION 9.  
Assessment / Classification:  
Remark:

### 11.1.1 Mixtures

No toxicological information is available for the mixture itself

## Section 12 : Ecological information

In case that test data regarding one endpoint/differentiation exist for the mixture itself, the classification is carried out according to the substance criteria (excluding biodegradation and bioaccumulation). If no test data exist, the criteria for mixture classification has to be used (calculation method) in this case the toxicological data of the ingredients are shown.

### **12.1 Aquatic toxicity:**

Acute (short-term) fish toxicity

Chronic (long-term) fish toxicity

Acute (short-term) toxicity to crustacea

Chronic (long-term) toxicity to crustacea

Acute (short-term) toxicity to algae and cyanobacteria

Toxicity to microorganisms and other aquatic plants / organisms

Assessment / Classification:

### **12.2 Persistence and degradability**

Biodegradation:

Abiotic Degradation:

Assessment / Classification:

### **12.3 Bioaccumulative potential**

Bioconcentration factor (BCF):

### **12.4 Mobility in soil**

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Designation / Trade name: PAb Anti-phospho MEK1/2-Eu cryptate - 10,000 tests 61P17KAZ  
Version: US, Page 10 of 11, Revision date: 21/05/2019



### 12.5 Results of PBT and vPvB assessment

### 12.6 Other adverse effects:

Additional ecotoxicological information:

## Section 13 : Disposal considerations

### 13.1 Waste treatment methods

Waste treatment options:

Dispose of waste according to applicable legislation. ;

Other disposal recommendations:

Additional information:

## Section 14 : Transport information

### ADR/RID/AND/IMDG/IATA

UN No.	
UN Proper shipping name	
Transport hazard class(es)	
Hazard label(s)	
Packing group	

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

#### Land transport (ADR/RID)

Classification code ADR:

Special Provisions for ADR/RID:

Limited quantities for ADR/RID:

Excepted Quantities for ADR/RID:

Packing Instructions for ADR/RID:

Special packing provisions for ADR/RID:

Mixed packing provisions:

Portable tanks and bulk containers Instructions:

Portable tanks and bulk containers Special Provisions:

ADR Tank Code:

ADR Tank special provisions:

Vehicle for tank carriage:

Special provisions for carriage Packages:

Special provisions for carriage Bulk:

Special provisions for carriage for loading, unloading and handling:

Special Provisions for carriage Operation:

Hazard identification No:

Transport category (Tunnel restriction code):

#### Sea transport (IMDG)

Marine Pollutant:

Subsidiary risk(s) for IMDG:

Packing provisions for IMDG:

Limited quantities for IMDG:

Packing instructions for IMDG:

IBC Instructions:

IBC Provisions:

IMO tank instructions:

UN tank instructions:

Tanks and bulk Provisions:

EmS :

Stowage and segregation for IMDG:

Properties and observations:

#### Inland waterway transport (ADN)

Classification Code ADN:

Special Provisions ADN:

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Designation / Trade name: PAb Anti-phospho MEK1/2-Eu cryptate - 10,000 tests 61P17KAZ  
Version: US, Page 11 of 11, Revision date: 21/05/2019

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Limited quantities ADN:	Excepted quantities ADN:
Carriage permitted:	Equipment required:
Provisions concerning loading and unloading:	Number of blue cones/lights:
Provisions concerning carriage:	
Remark:	

### Air transport (ICAO-TI / IATA-DGR)

Subsidiary risk for IATA:	Excepted quantity for IATA:
Passenger and Cargo Aircraft Limited Quantities Packing Instructions:	
Passenger and Cargo Aircraft Limited Quantities Maximal Net Quantity :	
Passenger and Cargo Aircraft Packaging Instructions :	
Passenger and Cargo Aircraft Maximal Net Quantity :	
Cargo Aircraft only Packaging Instructions :	
Cargo Aircraft only Maximal Net Quantity :	
ERG code:	Special Provisions for IATA:

## Section 15 : Regulatory information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**15.2 Chemical Safety Assessment:**

For the following substances of this mixture a chemical safety assessment has been carried out :

## Section 16 : Other information

**16.1 Indication of changes**

Date of the previous version:03/05/2019

Modifications:

**16.2 Abbreviations and acronyms:**

**16.3 Key literature references and sources for data**

**16.4 Classification for mixtures and used evaluation method according to Hazard Communication Standard (HCS) (29 CFR 1910.1200(g):**

See SECTION 2.1 (classification).

**16.5 Relevant R-, H- and EUH-phrases (number and full text):**