

**Product Name:** Azeotropica EtOAc/Eptano  
**Issued:** Jun-18-2013

## **SAFETY DATA SHEET**

### **Section 1. Identification of the substance/mixture and of the company/undertaking**

#### **1.1 Product Identifier**

**Product Name:** Azeotropica EtOAc/Eptano  
**Synonyms:** Azeotropica Acetato di Etile/Eptano; Recovered Ethyl Acetate/Heptanes Azeotrope;  
Recovered Ethyl Acetate/Heptanes from Lopinavir; Ethyl Acetate, Recovered;  
Mixture Ethyl Acetate/Heptanes  
**Drug Code Number:** 78634; 24739

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

**Recommended use:** Industrial use  
Scientific research and development

#### **1.3 Details of the supplier of the safety data sheet**

**Supplier:** AbbVie Inc.  
1 North Waukegan Road  
North Chicago, IL 60064  
USA  
1-800-255-5162  
+1-847-937-7433  
**Manufacturer European:** AbbVie Inc.  
via Pontina, km 52  
Campoverde - LT 04010  
Italia  
**Customer Service Telephone:** 1-800-255-5162 (US and Canada only)  
+1-847-937-7433  
**E-mail Address:** AbbVie.SDS@abbvie.com

#### **1.4 Emergency telephone number**

**Emergency Telephone:** CHEMTREC: 1(800) 424-9300 (in USA and Canada)  
or +1-703-527-3887 (international)

### **Section 2. Hazards identification**

#### **2.1 Classification of the substance or mixture**

**Regulation (EC) No 1272/2008**

<b>Aspiration toxicity</b>	Category 1
<b>Skin corrosion/irritation</b>	Category 2
<b>Serious eye damage/eye irritation</b>	Category 2
<b>Specific target organ systemic toxicity (single exposure)</b>	Category 3
<b>Acute aquatic toxicity</b>	Acute 1
<b>Chronic aquatic toxicity</b>	Chronic toxicity 1

**Product Name:** Azeotropica EtOAc/Eptano  
**Issued:** Jun-18-2013

## Section 2. Hazards identification

Flammable liquids

Category 2

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**

**Indication of danger:**

F - Highly flammable

Xi - Irritant

Xn - Harmful

N - Dangerous for the environment

**Risk Phrases:**

R11 - Highly flammable

R36 - Irritating to eyes

R38 - Irritating to skin

R50 - Very toxic to aquatic organisms

R53 - May cause long-term adverse effects in the aquatic environment

R65 - Harmful: may cause lung damage if swallowed

R67 - Vapors may cause drowsiness and dizziness

### 2.2 Label elements



**Signal Word:**

Danger

**Hazard Statements:**

H225 - Highly flammable liquid and vapor

H304 - May be fatal if swallowed and enters airways

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H336 - May cause drowsiness or dizziness

H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects

P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing

P312 - Call a POISON CENTER or doctor/physician if you feel unwell

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

### 2.3 Other hazards

Not determined

**Product Name:** Azeotropica EtOAc/Eptano  
**Issued:** Jun-18-2013

### Section 3. Composition/information on ingredients

Chemical Name	Percent	EINECS/ELINCS Number	EEC Classification	EU - GHS Substance Classification	REACH No.
Ethyl Acetate 141-78-6	50-75	Present	F; R11 R66 R67 Xi; R36	Flam. Liq. 2 (H225) Eye Irrit. 2 (H319) STOT SE 3 (H336)	No data available
Heptane 142-82-5	25-45	Present	F; R11 N; R50-53 R67 Xi; R38 Xn, R65	STOT SE 3 (H336) Asp. Tox. 1 (H304) Skin Irrit. 2 (H315) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) Flam. Liq. 2 (H225)	No data available
Water 7732-18-5	0.1-1	Present		Not Hazardous*	No data available

Not Hazardous\* - Based on available data, not classified as hazardous according to the criteria of the Globally Harmonized System.

**For the full text of the R-phrases mentioned in this Section, see Section 16**  
**For the full text of the H-Statements mentioned in this Section, see Section 16**

### Section 4. First aid measures

#### 4.1 Description of first aid measures

**Eye Contact:** Remove from source of exposure. Flush with copious amounts of water. If irritation persists or signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.

**Skin Contact:** Remove from source of exposure. Flush with copious amounts of water. If irritation persists or signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.

**Inhalation:** Remove from source of exposure. If signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.

**Ingestion:** Remove from source of exposure. If signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.

**Protection of First-aiders:** Use personal protective equipment

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

**Signs and Symptoms:** This product may produce irritation to the skin, eyes, and upper respiratory tract.

**Medical Conditions Aggravated by Exposure:** Medical conditions exacerbated due to exposure to the following organs: eyes, skin, lungs, kidney, liver.

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

**Product Name:** Azeotropica EtOAc/Eptano

**Issued:** Jun-18-2013

**Notes To Physician:** Treat symptomatically

## **Section 5. Firefighting measures**

### **5.1 Extinguishing Media**

**Suitable Extinguishing Media:** Use extinguishing agent suitable for type of surrounding fire

**Unsuitable Extinguishing Media:** Not determined

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

**Special Exposure Hazards:** Not determined

### **5.3 Advice for firefighters**

**Protective Equipment and Precautions for Firefighters:** As in any fire, wear self-contained breathing apparatus and full protective gear

## **Section 6. Accidental release measures**

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

**Personal Precautions:** For personal protection see section 8

### **6.2. Environmental precautions**

**Environmental Precautions:** Contain material and prevent release to waterways or soil.

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

**Methods for Cleaning Up:** Recover product and place in an appropriate container for disposal.

### **6.4. Reference to other sections**

Refer to Sections 8, 12, and 13 for further information.

## **Section 7. Handling and storage**

### **7.1. Precautions for safe handling**

Handle in accordance with good industrial hygiene and safety practice. Keep away from open flames, hot surfaces and sources of ignition.

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

Store according to label instructions

### **7.3. Specific end use(s)**

**Recommended use:** Industrial use  
Scientific research and development

## **Section 8. Exposure controls/personal protection**

**Product Name:** Azeotropica EtOAc/Eptano  
**Issued:** Jun-18-2013

## Section 8. Exposure controls/personal protection

### 8.1. Control parameters

#### Exposure limits:

Chemical Name	Employee Exposure Limit	Skin Notation
Ethyl Acetate 141-78-6	Not Applicable	None
Heptane 142-82-5	400 ppm (OSHA)	None
Water 7732-18-5	Not Applicable	None

Chemical Name	ACGIH TLV	France	German MAK	Ireland	Italy
Ethyl Acetate 141-78-6	400 ppm TWA	TWA: 1400 mg/m <sup>3</sup>	1500 mg/m <sup>3</sup> TWA	400 ppm (STEL) 200 ppm (TWA)	
Heptane 142-82-5	500 ppm STEL 400 ppm TWA	STEL: 2085 mg/m <sup>3</sup> TWA: 1668 mg/m <sup>3</sup>	2100 mg/m <sup>3</sup> TWA	500 ppm (TWA) 2085 mg/m <sup>3</sup> (TWA) 500 ppm (TWA)	2085 mg/m <sup>3</sup> (TWA)

Chemical Name	The Netherlands	Spain	Switzerland	UK OEL/MEL
Ethyl Acetate 141-78-6		1460 mg/m <sup>3</sup> (TWA)	1400 mg/m <sup>3</sup> (TWA) 2800 mg/m <sup>3</sup> (STEL)	400 ppm (STEL) 200 ppm (TWA)
Heptane 142-82-5	1600 mg/m <sup>3</sup> (STEL) 1200 mg/m <sup>3</sup> (TWA)	2085 mg/m <sup>3</sup> (TWA)	1600 mg/m <sup>3</sup> (TWA) 1600 mg/m <sup>3</sup> (STEL)	1500 ppm (STEL) 6255 mg/m <sup>3</sup> (STEL) 1500 ppm (STEL) 500 ppm (TWA) 2085 mg/m <sup>3</sup> (TWA)

### 8.2. Exposure controls

**Engineering Controls:** Local exhaust ventilation as necessary to maintain exposures to within applicable limits.

**Respiratory Protection:** An approved respirator (i.e. NIOSH, EN, etc.) should be worn when exposures are expected to exceed the applicable limits.

**Eyes:** Wear eye protection appropriate to handling activities.

**Gloves:** Impervious gloves.

**Other PPE Data:** Wear appropriate body coverings if contact may occur.

**Environmental Exposure Controls:** Not determined

## Section 9. Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

**Appearance:** Liquid  
**Odor:** Not determined.  
**Odor Threshold:** Not determined  
**pH:** Not determined.  
**Boiling Pt. @ 760 mm Hg (°C):** Not determined.  
**Melting/Freezing Point (°C):** Not determined  
**Flash Point (°C):** Not determined.

**Product Name:** Azeotropica EtOAc/Eptano  
**Issued:** Jun-18-2013

**Evaporation Rate at 20°C:** Not determined.  
**Flammability (Solid):** Not determined.  
**Lower Explosive Limit:** Not determined.  
**Upper Explosive Limit:** Not determined.  
**Vapor Pressure (mm Hg):** Not determined.  
**Vapor Density (Air = 1):** Not determined.  
**Specific Gravity:** Not determined.  
**Solubility(ies):** Not determined.  
**Partition coefficient: n-octanol/water** Not determined.  
**Autoignition Temp. (°C):** Not determined.  
**Decomposition temperature (°C):** Not determined.  
**Viscosity (centipoise):** Not determined.  
**Explosion Severity:** Not determined.  
**Oxidizer Properties:** Not determined.

## **9.2. Other information**

Not determined

## **Section 10. Stability and reactivity**

### **10.1. Reactivity**

Not determined

### **10.2. Chemical stability**

Stable under normal conditions

### **10.3. Possibility of hazardous reactions**

**Hazardous reactions:** Not determined.

### **10.4. Conditions to avoid**

Avoid contact with heat, sparks, open flame, and static discharge.

### **10.5 Incompatible materials**

Strong oxidizing agents

### **10.6 Hazardous decomposition products**

Carbon oxides

## **Section 11. Toxicological information**

### **11.1. Information on toxicological effects**

#### **Routes of Exposure:**

**Oral:** Yes  
**Dermal:** Yes  
**Inhalation:** Unlikely

**Acute Toxicity - Oral:** Data for component (s) given below.

**Product Name:** Azeotropica EtOAc/Eptano  
**Issued:** Jun-18-2013

Chemical Name	Acute Test	Value	Units	Species
Ethyl Acetate 141-78-6	LD50 =	4100-4935	mg/kg	Mice Rats Rabbits
Heptane 142-82-5	LD50 >	260,000	mg/kg	Rats

**Acute Toxicity - Dermal:** Data for component (s) given below.

Chemical Name	Acute Test	Value	Units	Species
Ethyl Acetate 141-78-6	LD50 >	20	ml/kg	Rabbits
Heptane 142-82-5	LD50 =	3400	mg/kg	Rabbits

**Acute Toxicity - Inhalation:** Data for component (s) given below.

Chemical Name	Test	Value	Units	Species
Ethyl Acetate 141-78-6	LC 50 =	200	g/m <sup>3</sup>	Rats
Heptane 142-82-5	LC 50 =	130,000	mg/m <sup>3</sup> , 4 hour	Rats

**Other Toxicology Data:** Data for component (s) given below:

Chemical Name	Test Type	Value	Units	Species	Comments
Heptane 142-82-5	LD50 (iv) =	222	mg/kg	Mice	

**Corrosivity:** Not determined.

**Dermal Irritation:** A minor ingredient is a skin irritant.

**Eye Irritation:** A major ingredient is an eye irritant.

**Sensitization:** Not determined.

**Toxicokinetics/Metabolism:** Not determined.

**Target Organ Effects:** Target Organ Effects: blood, liver, kidneys, central nervous system.  
Data for component (s) given below.

Chemical Name	Target Organs:	Species	Dosage	Units	Route	Duration
Ethyl Acetate 141-78-6	Respiratory System Eyes	Humans	400	ppm	Inhalation	Not Specified

**Reproductive Effects:** Not determined.

**Carcinogenicity:** Not determined.

**Mutagenicity:** Not determined.

**Aspiration hazard:** Not determined

**Notes:**

1. ALD: Approximate lethal dosage
2. LC50: Concentration in air that produces 50% mortality
3. LD50: Oral or dermal dosage that produces 50% mortality

**Product Name:** Azeotropica EtOAc/Eptano  
**Issued:** Jun-18-2013

## Section 12. Ecological information

### 12.1. Toxicity

Data for component (s) given below.

Chemical Name	Percent	LC 50 (mg/l)	Species	Duration
Ethyl Acetate 141-78-6	50-75	350-600 220-250	Rainbow Trout Fathead Minnow	96 Hours
Heptane 142-82-5	25-45	4	Carassius auratus	24 hours

Chemical Name	Percent	EC 50 (mg/l)	Species	Duration
Ethyl Acetate 141-78-6	50-75	560	Daphnia magna	24 hours
Heptane 142-82-5	25-45	1.5	Daphnia magna	48 Hours

### 12.2. Persistence and degradability

Not determined.

### 12.3. Bioaccumulative potential

Data for components given below.

Chemical Name	Percent	Log Po/w
Heptane 142-82-5	25-45	4.66

### 12.4. Mobility in soil

Not determined.

### 12.5. Results of PBT or vPvB assessment

Chemical safety report is not required for this substance/product.

### 12.6. Other adverse effects

Do not allow undiluted material or large quantities to reach groundwater, bodies of water or sewer system.

#### Notes:

1. EC50: Concentration in water that produces 50% mortality in *Daphnia* sp.
2. LC50: Concentration in water that produces 50% mortality in fish.
3. EbC50/ErC50: Concentration in water that produces 50% inhibition of growth and in algae.

## Section 13. Disposal considerations

### 13.1 Waste treatment methods

**Waste Disposal Methods:** Disposal should be made in accordance with country, federal, state and local regulations.

## Section 14. Transport information



**Product Name:** Azeotropica EtOAc/Eptano  
**Issued:** Jun-18-2013

## Section 14. Transport information

### ADR, DOT, ICAO/IATA, IMDG/IMO

**Status:** Regulated

**14.1. UN Number:** UN1993  
**14.2. Proper shipping name:** Flammable liquid, n.o.s. (Ethyl Acetate, Heptanes)  
**14.3. Hazard class:** 3  
**14.4. Packing group:** II  
**14.5. Environmental hazard:** Not applicable  
**14.6. Special Provisions:** Not applicable  
**14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:** Not applicable

## Section 15. Regulatory Information

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

#### International Inventories

Chemical Name	EINECS/ ELINCS	TSCA	DSL	NDSL	PICCS
Ethyl Acetate 141-78-6	Present	X	X	Not listed.	X
Heptane 142-82-5	Present	X	X	Not listed.	X
Water 7732-18-5	Present	X	X	Not listed.	X

Chemical Name	ENCS	ISHL	IECSC	AICS	KECL	New Zealand
Ethyl Acetate 141-78-6	Present	-	X	X	Present	HSR001041
Heptane 142-82-5	Present	-	X	X	Present	HSR001164
Water 7732-18-5	-	2-(4)-1220	X	X	Present	

#### Legend

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**ENCS** - Japan Existing and New Chemical Substances

**ISHL** - Japan Industrial Safety and Health Law

**IECSC** - China Inventory of Existing Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

#### Carcinogenicity Rating:

Chemical Name	Percent	NTP:	IARC:	ACGIH:
Ethyl Acetate	50-75	Not Listed	Not Listed	Not Listed
Heptane	25-45	Not Listed	Not Listed	Not Listed
Water	0.1-1	Not Listed	Not Listed	Not Listed

#### SARA 313 Information

**Product Name:** Azeotropica EtOAc/Eptano  
**Issued:** Jun-18-2013

Chemical Name	Percent	SARA 313 Chemical:	CERCLA RQ/SARA EHS RQ (lbs):	SARA EHS TPQ (lbs):
Ethyl Acetate	50-75	No	2270 kg	Not applicable
Heptane	25-45	No	Not Applicable	Not applicable
Water	0.1-1	No	Not Applicable	Not applicable

**Immediate Health:** Yes  
**Delayed Health:** No  
**Fire:** Yes  
**Sudden Pressure:** No  
**Reactivity:** No

**RCRA Status:** Not determined.

**Proposition 65 Status:** Does not contain chemicals known to the state of California to cause cancer or reproductive harm.

**WHMIS Hazard Class:** Not determined.

**NFPA Rating:**  
Health: 2  
Fire: 3  
Reactivity: 0

**Notes:**

1. SARA = Superfund Amendments and the Reauthorization Act.
2. CERCLA = Comprehensive Environmental Response, Compensation and Liability Act.
3. FIFRA = Federal Insecticide, Fungicide and Rodenticide Act.
4. TSCA = Toxic Substances Control Act.
5. EC = European Community.
6. WHMIS = Canadian Workplace Hazardous Materials Information System.
7. UN GHS = United Nations Globally Harmonized System for Hazard Identification.

**15.2. Chemical safety assessment**

Chemical safety assessment has not been conducted on the substance/product.

**Section 16. Other information**

**Risk Phrases:** R11 - Highly flammable, R36 - Irritating to eyes, R38 - Irritating to skin, R50 - Very toxic to aquatic organisms, R53 - May cause long-term adverse effects in the aquatic environment, R65 - Harmful: may cause lung damage if swallowed, R67 - Vapors may cause drowsiness and dizziness

**Full text of H-Statements referred to under sections 2 and 3**

H225 - Highly flammable liquid and vapor, H319 - Causes serious eye irritation, H336 - May cause drowsiness or dizziness, H304 - May be fatal if swallowed and enters airways, H315 - Causes skin irritation, H400 - Very toxic to aquatic life, H410 - Very toxic to aquatic life with long lasting effects

**Document Authored By:** Global Occupational Toxicology (D-03QC)

**Issued:** Jun-18-2013

**Product Name:** Azeotropica EtOAc/Eptano  
**Issued:** Jun-18-2013

**Disclaimer:**

*The information and recommendations contained herein are based upon tests believed to be reliable. However, AbbVie Inc. does not guarantee their accuracy or completeness NOR SHALL ANY OF THIS INFORMATION CONSTITUTE A WARRANTY, WHETHER EXPRESSED OR IMPLIED, AS TO THE SAFETY OF THE GOODS, THE MERCHANTABILITY OF THE GOODS, OR THE FITNESS OF THE GOODS FOR A PARTICULAR PURPOSE. Adjustment to conform to actual conditions of usage may be required. AbbVie Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied.*