



Material Safety Data Sheet

Ubiquinone Coenzyme Q10 HPLC Kit

Catalog Number: 30-KC-1700

ALPCO Diagnostics

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Safety Data Sheet

MSDS ACCORDING TO REGULATION (EC) NO. 1907/2006

Version 1.1

Revision Date 2009-05-08

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NO COUNTRY SPECIFIC DATA

1. Name of compound/preparation and manufacturer

- 1.1. Name of product: Ubichinon HPLC Kit
- 1.2. Number of product: KC 1700
- 1.3. Manufacturer: Immundiagnostik AG
Stubenwald-Allee 8a
64625 Bensheim
Germany
- 1.4. Manufacturer's contact phone: +49-6251-701-900
- 1.5. Poison control center (US): 1-800-222-1222 (toll free)

2. Composition / Declaration of components

2.1. Chemical characterization of the preparation:

Liquids

2.2. Dangerous ingredients:

Reagent	CAS No	EC No	EC-Index No	Classification	Content [%]	Special instruction see on
Mobile phase - Methanol	67-56-1	200-659-6	603-001-00-X	F, T, R11 - R23/24/25 - R39/23/24/25	< 65	SHEET 15
Mobile phase - 2-Propanol	67-63-0	200-661-7	603-117-00-0	F, Xi, R11 - R36 - R67	< 45	SHEET 13
Dilution solution - Sodium dodecyl sulfate	151-21-3	205-788-1	608-001-00-3	F, Xn, R11 - R21/22 - R36/37/38	< 5	SHEET 21
Extraction solution -Hexane	110-54-3	203-777-6	601-037-00-0	F, Xn, N, Repr.Cat.3, R11- R38 - R48/20 - R62 - R65 - R67 - R51/53	> 95	SHEET 11
Internal standard/Ethanol - Ethanol	64-17-5	200-578-6	603-002-00-5	F, R11	> 95	SHEET 9

1 - IDENTIFICATION OF THE SUBSTANCE

Name Methanol

2 - Hazards Identification

Risk advice to man and the environment

- Highly flammable. Toxic by inhalation, in contact with skin and if swallowed. Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

3 - Composition/Information on Ingredients

Formula : CH₄O
Molecular Weight : 32,04 g/mol

Reagent	CAS No	EC No	EC-Index No	Classification
Methanol	67-56-1	200-659-6	603-001-00-X	F, T, R11 - R23/24/25 - R39/23/24/25

4 - First Aid Measures

General advice

- Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

- If breathed in, move person into fresh air. If not breathing give artificial respiration
Consult a physician.

In case of skin contact

- Wash off with soap and plenty of water. Take victim immediately to hospital.
Consult a physician.

In case of eye contact

- Rinse thoroughly with plenty of water for at least 15 minutes and consult a
physician.

If swallowed

- Do NOT induce vomiting. Never give anything by mouth to an unconscious person.
Rinse mouth with water. Consult a physician.

5 - Fire Fighting Measures

Suitable extinguishing media

- For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

Special protective equipment for fire-fighters

- Wear self contained breathing apparatus for fire fighting if necessary.

Further information

- Use water spray to cool unopened containers.

6 - Accidental Release Measures

Personal precautions

- Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions

- Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods for cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

7 - Handling and Storage

Handling

- Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
- Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Storage

- Store in cool place. Keep container tightly closed in a dry and well-ventilated place.
- Containers which are opened must be carefully resealed and kept upright to prevent leakage.

8 - Exposure Controls / Personal Protection

Personal protective equipment

- Respiratory protection Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
- Hand protection The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Handle with gloves.
- Eye protection Safety glasses
- 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.

9 Physical and Chemical Properties

Appearance : Form liquid, clear
 Colour colourless

Safety data

pH	no data available
Melting point	-98 °C
Boiling point	64,0 - 65,0 °C
Flash point	11,0 °C - closed cup
Ignition temperature	455 °C
Lower explosion limit	6 %(V)
Upper explosion limit	36 %(V)
Vapour pressure	546,6 hPa at 50,0 °C 130,3 hPa at 20,0 °C
Density	0,79 g/cm ³
Water solubility	completely miscible
Partition coefficient:	log Pow: -0,77

10 - Stability and Reactivity

Storage stability

- Stable under recommended storage conditions.

Conditions to avoid

- Heat, flames and sparks.

Materials to avoid

- acids, Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents

Hazardous decomposition products

- Hazardous decomposition products formed under fire conditions. - Carbon oxides

11 - Toxicological Information

ACUTE TOXICITY

LD50 Oral - rat - 5.628 mg/kg

LC50 Inhalation - rat - 4 h - 64000 ppm

LD50 Dermal - rabbit - 15800 mg/kg

Irritation and corrosion

Skin - rabbit - Skin irritation - 24 h

Eyes - rabbit - Eye irritation 24 h

Sensitisation

no data available

Chronic exposure

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

Signs and Symptoms of Exposure

Methyl alcohol may be fatal or cause blindness if swallowed, Cannot be made non-poisonous., Effects due to ingestion may include:, Nausea, Headache, Vomiting, Gastrointestinal disturbance, Dizziness, Weakness Confusion., Drowsiness, Unconsciousness, May cause convulsions.

Potential Health Effects

Inhalation	Toxic if inhaled. May cause respiratory tract irritation
Skin	Toxic if absorbed through skin. May cause skin irritation
Eyes	May cause eye irritation.
Ingestion	Toxic if swallowed
Target Organs	Eyes, Kidney, Liver, Heart, Central nervous system

Additional Information

- RTECS: PC1400000

12 - Ecological Information

Elimination information (persistence and degradability)

no data available

Ecotoxicity effects

Toxicity to fish	LC50 - Oncorhynchus mykiss (rainbow trout) - 19.000,00 mg/l - 96 h LC50 - Cyprinus carpio (Carp) - 36.000,00 mg/l - 48 h
Toxicity to daphnia and other aquatic Invertebrates.	EC50 - Daphnia magna (Water flea) - 24.500,00 mg/l - 48 h
	EC100 - Daphnia magna (Water flea) - 10.000,00 mg/l - 24 h

Further information on ecology

No data available.

13 - Disposal Considerations

Product

- Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. This combustible material may be burned in a chemical incinerator equipped with an afterburner and

scrubber. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

- Dispose of as unused product.

14 - Transport Information

ADR/RID

UN-Number: 1230
 Class: 3 (6.1)
 Packing group: II
 Proper shipping name: METHANOL

IMDG

UN-Number: 1230
 Class: 3 (6.1)
 Packing group: II EMS-No: F-E, S-D
 Proper shipping name: METHANOL
 Marine pollutant: No

IATA

UN-Number: 1230
 Class: 3(6.1)
 Packing group: II
 Proper shipping name: METHANOL

15 - Regulatory Information

Labelling according to EC Directives

EC Label

Hazard symbols

F	Highly flammable
T	Toxic

R-phrase(s)

R11	Highly flammable.
R23/24/25	Toxic by inhalation, in contact with skin and if swallowed.
R39/23/24/25	Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed..

S-phrase(s)

S 7	Keep container tightly closed.
S16	Keep away from sources of ignition - No smoking.
S36/37	Wear suitable protective clothing and gloves.
S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)..

1 - IDENTIFICATION OF THE SUBSTANCE

Name 2-Propanol

2 - Hazards Identification

Risk advice to man and the environment

- Highly flammable. Irritating to eyes. Vapours may cause drowsiness and dizziness.

3 - Composition/Information on Ingredients

Synonyms : Isopropanol
Formula : C₃H₈O
Molecular Weight : 60,1 g/mol

Reagent	CAS No	EC No	EC-Index No	Classification
2-Propanol	67-63-0	200-661-7	603-117-00-0	F, Xi, R11 - R36 - R67

4 - First Aid Measures

General advice

- Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

- If breathed in, move person into fresh air. If not breathing give artificial respiration
Consult a physician.

In case of skin contact

- Wash off with soap and plenty of water. Consult a physician

In case of eye contact

- Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician

If swallowed

- Do NOT induce vomiting. Never give anything by mouth to an unconscious person.
Rinse mouth with water. Consult a physician.

5 - Fire Fighting Measures

Suitable extinguishing media

- For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

Special protective equipment for fire-fighters

- Wear self contained breathing apparatus for fire fighting if necessary.

Further information

- Use water spray to cool unopened containers.

6 - Accidental Release Measures

Personal precautions

- Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions

- Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods for cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

7 - Handling and Storage

Handling

- Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
- Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Storage

- Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
- Handle and store under inert gas. hygroscopic

8 - Exposure Controls / Personal Protection

Personal protective equipment

- Respiratory protection Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
- Hand protection: The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Handle with gloves.
- Eye protection Safety glasses 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

9 Physical and Chemical Properties

Appearance :	Form	liquid, clear
	Colour	colourless

Safety data

pH	no data available
Melting point	-89,5 °C
Boiling point	81,0 - 83,0 °C
Flash point	12,0 °C - closed cup
Ignition temperature	425 °C
Lower explosion limit	2 %(V)
Upper explosion limit	12,7 %(V)
Vapour pressure	43,2 hPa at 20,0 °C 58,7 hPa at 25,0 °C
Density	0,78 g/cm ³
Water solubility	completely soluble
Partition coefficient: n-octanol/water	log Pow: 0,05

10 - Stability and Reactivity

Storage stability

- Stable under recommended storage conditions.

Conditions to avoid

- Heat, flames and sparks.

Materials to avoid

- Oxidizing agents, acids, Acid anhydrides, Halogens, Aluminum

Hazardous decomposition products

- Hazardous decomposition products formed under fire conditions. - Carbon oxides

11 - Toxicological Information

ACUTE TOXICITY

LD50 Oral - rat - 5.045 mg/kg

Remarks: Behavioral: Altered sleep time (including change in righting reflex).

Behavioral: Somnolence (general depressed activity).

LC50 Inhalation - rat - 8 h - 16000 ppm

LD50 Dermal - rabbit - 12.800 mg/kg

Irritation and corrosion

Skin - rabbit - Mild skin irritation

Eyes - rabbit - Eye irritation - 24 h

Sensitisation

no data available

Chronic exposure

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC,ACGIH, NTP, or EPA classification.

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.

Signs and Symptoms of Exposure

Central nervous system depression, prolonged or repeated exposure can cause; Nausea, Headache, Vomiting, narcosis, Drowsiness, Overexposure may cause mild, reversible liver effects.

Potential Health Effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation. Vapours may cause drowsiness and dizziness.
Skin	May be harmful if absorbed through skin. May cause skin irritation.
Eyes	Causes eye irritation.
Ingestion	May be harmful if swallowed.
Target Organs	Gastrointestinal tract, Liver, Cardiovascular system., Kidney, Nerves.,

Additional Information

- RTECS: NT8050000

12 - Ecological Information

Elimination information (persistence and degradability)
no data available

Ecotoxicity effects

Toxicity to fish	LC50 - Pimephales promelas (fathead minnow) - 9.640,00 mg/l - 96 h
Toxicity to daphnia and other aquatic Invertebrates.	EC50 - Daphnia magna (Water flea) - 5.102,00 mg/l - 24 h
Toxicity to algae	EC50 - Scenedesmus subspicatus - > 2.000,00 mg/l - 72 h EC50 - No information available. - > 1.000,00 mg/l - 24 h

Further information on ecology
No data available.

13 - Disposal Considerations

Product

- Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

- Dispose of as unused product.

14 - Transport Information

ADR/RID

UN-Number: 1219
 Class: 3
 Packing group: II
 Proper shipping name: ISOPROPANOL

IMDG

UN-Number: 1219
 Class: 3
 Packing group: II EMS-No: F-E, S-D
 Proper shipping name: ISOPROPANOL
 Marine pollutant: No

IATA

UN-Number: 1219
 Class: 3
 Packing group: II
 Proper shipping name: Isopropanol

15 - Regulatory Information

Labelling according to EC Directives

EC Label

Hazard symbols

F	Highly flammable
Xi	Irritant

R-phrase(s)

R11	Highly flammable.
R36	Irritating to eyes.
R67	Vapours may cause drowsiness and dizziness.

S-phrase(s)

S 7	Keep container tightly closed.
S16	Keep away from sources of ignition - No smoking.
S24/25	Avoid contact with skin and eyes.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

1 - IDENTIFICATION OF THE SUBSTANCE

Name Sodium dodecyl sulfate

2 - Hazards Identification

Risk advice to man and the environment

- Highly flammable. Harmful in contact with skin and if swallowed. Irritating to eyes, respiratory system and skin.

3 - Composition/Information on Ingredients

Synonyms : Lauryl sulfatesodium salt
 Sodium lauryl sulfate
 Dodecyl sodium sulfate
 Dodecyl sulfatesodium salt
 SDS

Formula : C₁₂H₂₅NaO₄S

Molecular Weight : 288,38 g/mol

Reagent	CAS No	EC No	EC-Index No	Classification
Sodium dodecyl sulfate	151-21-3	205-788-1	608-001-00-3	F, Xn, R11 - R21/22 - R36/37/38

4 - First Aid Measures

General advice

- Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

- If breathed in, move person into fresh air. If not breathing give artificial respiration
Consult a physician.

In case of skin contact

- Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

- Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

- Do NOT induce vomiting. Never give anything by mouth to an unconscious person.
Rinse mouth with water. Consult a physician.

5 - Fire Fighting Measures

Suitable extinguishing media

- Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters

- Wear self contained breathing apparatus for fire fighting if necessary.

Further information

- Use water spray to cool unopened containers.

6 - Accidental Release Measures

Personal precautions

- Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas.

Environmental precautions

- Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods for cleaning up

- Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

7 - Handling and Storage

Handling

- Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Storage

- Store in cool place. Keep container tightly closed in a dry and well-ventilated place.
- hygroscopic

8 - Exposure Controls / Personal Protection

Personal protective equipment

- Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
- Hand protection: The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Handle with gloves.
- Eye protection: Safety glasses
- 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.

9 Physical and Chemical Properties

Appearance : Form solid
 Colour white

Safety data

pH	7.2
Melting point	204-207 °C
Boiling point	no data available
Flash point	no data available
Ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Density	0,370 g/cm ³
Water solubility	soluble
Partition coefficient: n-octanol/water	log Pow: 1.6

10 - Stability and Reactivity

Storage stability

- Stable under recommended storage conditions.

Conditions to avoid

- Heat, flames and sparks.

Materials to avoid

- Oxidizing agents

Hazardous decomposition products

- Hazardous decomposition products formed under fire conditions. - Carbon oxides, Sulphur oxides

11 - Toxicological Information

ACUTE TOXICITY

LD50 Oral - rat - 1288 mg/kg
LC50 Inhalation - rat - 1 h > 3.900 mg/m³
LD50 Dermal - rabbit - 580 mg/kg

Irritation and corrosion

Skin - rabbit - Skin irritation - 24 h
Eyes - rabbit - Eye irritation

Sensitisation

Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

Chronic exposure

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.

Signs and Symptoms of Exposure

sneezing, The sodium salt of dodecyl sulfate has been reported to cause pulmonary sensitization resulting in hyperactive airway dysfunction and pulmonary allergy accompanied by fatigue, malaise, and aching. Significant symptoms of exposure can persist for more than two years and can be activated by a variety of nonspecific environmental stimuli such as automobile exhaust, perfumes, and passive smoking.

Potential Health Effects

Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Skin	Harmful if absorbed through skin. Causes skin irritation.
Eyes	Causes eye irritation.
Ingestion	Harmful if swallowed
Target Organs	Lungs

Additional Information

RTECS: WT1050000

12 - Ecological Information

Elimination information (persistence and degradability)

Bioaccumulation	Cyprinus carpio (Carp) - 72 h Bioconcentration factor (BCF): 3,9 - 5,3
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Ecotoxicity effects

Toxicity to fish	mortality NOEC - Oncorhynchus mykiss (rainbow trout) - 19,5 mg/l - 96 h mortality LOEC - Pimephales promelas (fathead minnow) - 4,6 mg/l - 8 d LC50 - Oncorhynchus mykiss (rainbow trout) - 3,6 mg/l - 96 h
Toxicity to algae	Growth inhibition LOEC - Pseudokirchneriella subcapitata - 2,68 mg/l - 6 d

Further information on ecology

No data available.

13 - Disposal Considerations

Product

- Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

- Dispose of as unused product.

14 - Transport Information

RID/ADR

UN-Number: 2926

Class: 4.1 (6.1)

Packing group: II

Proper shipping name: FLAMMABLE SOLID, TOXIC, ORGANIC, N.O.S. (Sodium dodecyl sulphate)

IMDG

UN-Number: 2926

Class: 4.1 (6.1)

Packing group: II

EMS-No: F-A, S-G

Proper shipping name: FLAMMABLE SOLID, TOXIC, ORGANIC, N.O.S. (Sodium dodecyl sulphate) Marine pollutant: No

IATA

UN-Number: 2926

Class: 4.1 (6.1)

Packing group: II

Proper shipping name: Flammable solid, toxic, organic n.o.s. (Sodium dodecyl sulphate)

15 - Regulatory Information

Labelling according to EC Directives

Hazard symbols

F	Highly flammable
Xn	Harmful

R-phrase(s)

R11	Highly flammable
R21/22	Harmful in contact with skin and if swallowed.
R36/37/38	Irritating to eyes, respiratory system and skin.

S-phrase(s)

S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37	Wear suitable protective clothing and gloves.

1 - IDENTIFICATION OF THE SUBSTANCE

Name Hexane

2 - Hazards Identification

Risk advice to man and the environment

Highly flammable. Irritating to skin. Harmful: danger of serious damage to health by prolonged exposure through inhalation. Possible risk of impaired fertility. Harmful: may cause lung damage if swallowed. Vapours may cause drowsiness and dizziness. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

3 - Composition/Information on Ingredients

Synonyms : n-Hexane
Formula : C₆H₁₄
Molecular Weight : 86,18 g/mol

Reagent	CAS No	EC No	EC-Index No	Classification
Hexane	110-54-3	203-777-6	601-037-00-0	F, Xn, N, Repr.Cat.3, R11 - R38 - R48/20 - R62 - R65 - R67 - R51/53

4 - First Aid Measures

General advice

- Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

- If breathed in, move person into fresh air. If not breathing give artificial respiration
Consult a physician.

In case of skin contact

- Wash off with soap and plenty of water. Consult a physician

In case of eye contact

- Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

- Do NOT induce vomiting. Never give anything by mouth to an unconscious person.
Rinse mouth with water. Consult a physician.

5 - Fire Fighting Measures

Suitable extinguishing media

- For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

Special protective equipment for fire-fighters

- Wear self contained breathing apparatus for fire fighting if necessary.

Further information

- Use water spray to cool unopened containers

6 - Accidental Release Measures

Personal precautions

- Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions

- Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods for cleaning up

- Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

7 - Handling and Storage

Handling

- Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Storage

- Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

8 - Exposure Controls / Personal Protection

Personal protective equipment

- Respiratory protection Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
- Hand protection: The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Handle with gloves.
- Eye protection: Safety glasses.
- 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.

9 Physical and Chemical Properties

Appearance: Form liquid
 Colour colourless

Safety data

pH	7.0
Melting point	-95 °C
Boiling point	68,0 - 70,0 °C
Flash point	-26,0 °C - closed cup
Ignition temperature	234 °C
Lower explosion limit	1,2 %(V)
Upper explosion limit	7,7 %(V)
Vapour pressure	341,3 hPa at 37,7 °C 176,0 hPa at 20,0 °C
Density	0,66 g/cm ³
Water solubility	insoluble
Partition coefficient: n-octanol/water	log Pow: 3,90 - 4,11

10 - Stability and Reactivity

Storage stability

- Stable under recommended storage conditions.

Conditions to avoid

- Heat, flames and sparks

Materials to avoid

- Oxidizing agents

Hazardous decomposition products

- Hazardous decomposition products formed under fire conditions. Carbon oxides

11 - Toxicological Information

ACUTE TOXICITY

LD50 Oral - rat - 25.000mg/kg

LC50 Inhalation - rat - 4 h - > 48.000 ppm

Irritation and corrosion

Eyes - rabbit - Mild eye irritation

Sensitisation

no data available

Chronic exposure

Carcinogenicity - rat - Inhalation

Tumorigenic: Carcinogenic by RTECS criteria. Tumorigenic Effects: Testicular tumors.
IARC: No component of this product presents at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
Overexposure may cause reproductive disorder(s) based on tests with laboratory animals

Signs and Symptoms of Exposure

Prolonged or repeated contact with skin may cause: defatting, Dermatitis, Contact with eyes can cause: Redness, Blurred vision, Provokes tears., Effects due to ingestion may include: Gastrointestinal discomfort, Central nervous system depression, Lung irritation, chest pain, pulmonary edema, giddiness, slowed reaction time, slurred speech, Headache, Dizziness, Drowsiness, Unconsciousness.
Potential Health Effects

Inhalation	Harmful if inhaled. May cause respiratory tract irritation. Vapours may cause drowsiness and dizziness.
Skin	May be harmful if absorbed through skin. Causes skin irritation.
Eyes	May cause eye irritation.
Ingestion	May be harmful if swallowed. Aspiration hazard if swallowed - can enter lungs and cause damage.
Target Organs	Peripheral nervous system., Kidney, Testes

Additional Information

RTECS: MN9275000

12 - Ecological Information

Elimination information (persistence and degradability)

No data available.

Ecotoxicity effects

Toxicity to fish	LC50 - Pimephales promelas (fathead minnow) - 2,5 mg/l - 96 h
Toxicity to daphnia and other aquatic Invertebrates.	EC50 - Daphnia magna (Water flea) - 3.878,00 mg/l - 48 h
Toxicity to algae	EC50 - Chlorella vulgaris (Fresh water algae) - 12.840,00 mg/l - 3 h EC50 - SKELETOMA - 0,30 mg/l - 8 h

Further information on ecology

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

13 - Disposal Considerations

Product

- Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

- Dispose of as unused product.

14 - Transport Information

ADR/RID

UN-Number: 1208 Class: 3 Packing group: II
Proper shipping name: HEXANES

IMDG

UN-Number: 1208 Class: 3 Packing group: II EMS-No: F-E, S-D
Proper shipping name: HEXANES
Marine pollutant: No

IATA

UN-Number: 1208 Class: 3 Packing group: II
Proper shipping name: Hexanes

15 - Regulatory Information

Labelling according to EC Directives

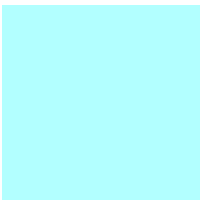
EC Label

Hazard symbols

F	Highly flammable
Xn	Harmful
N	Dangerous for the environment

R-phrase(s)

R11	Highly flammable
R38	Irritating to skin
R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R62	Possible risk of impaired fertility.
R65	Harmful: may cause lung damage if swallowed
R67	Vapours may cause drowsiness and dizziness
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment



S-phrase(s)

S 9	Keep container in a well-ventilated place.
S16	Keep away from sources of ignition - No smoking
S29	Do not empty into drains
S33	Take precautionary measures against static discharges
S36/37	Wear suitable protective clothing and gloves
S61	Avoid release to the environment. Refer to special instructions/ Safety data sheets
S62	If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

1 - IDENTIFICATION OF THE SUBSTANCE

Name Ethanol

2 - Hazards Identification

Risk advice to man and the environment

- Highly flammable

3 - Composition/Information on Ingredients

Synonyms : Ethyl alcohol

Formula : C₂H₆O

Molecular Weight : 46,07 g/mol

Reagent	CAS No	EC No	EC-Index No	Classification
Ethanol	64-17-5	200-578-6	603-002-00-5	F, R11

4 - First Aid Measures

General advice

- Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

- If breathed in, move person into fresh air. If not breathing give artificial respiration
Consult a physician.

In case of skin contact

- Wash off with soap and plenty of water. Consult a physician

In case of eye contact

- Flush eyes with water as a precaution

If swallowed

- Do NOT induce vomiting. Never give anything by mouth to an unconscious person.
Rinse mouth with water. Consult a physician

5 - Fire Fighting Measures

Suitable extinguishing media

- For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

Special protective equipment for fire-fighters

- Wear self contained breathing apparatus for fire fighting if necessary

Further information

- Use water spray to cool unopened containers.

6 - Accidental Release Measures

Personal precautions

- Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions

- Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods for cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

7 - Handling and Storage

Handling

- Avoid inhalation of vapour or mist.
- Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Storage

- Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
- hygroscopic

8 - Exposure Controls / Personal Protection

Personal protective equipment

- Respiratory protection Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
- Hand protection: The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Handle with gloves.
- Eye protection Safety glasses
- 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

9 Physical and Chemical Properties

Appearance : Form liquid, clear
 Colour colourless

Safety data

pH	no data available
Melting point	-144,0 °C
Boiling point	78,0 - 80,0 °C
Flash point	14,0 °C - closed cup
Ignition temperature	363 °C
Lower explosion limit	3,3 %(V)
Upper explosion limit	19 %(V)
Vapour pressure	59,5 hPa at 20,0 °C
Density	0,79 g/cm ³
Water solubility	completely soluble

10 - Stability and Reactivity

Storage stability

- Stable under recommended storage conditions.

Conditions to avoid

- Heat, flames and sparks.

Materials to avoid

- Alkali metals, Ammonia, Oxidizing agents, Peroxides

Hazardous decomposition products

- Hazardous decomposition products formed under fire conditions. - None known

11 - Toxicological Information

ACUTE TOXICITY

LD50 Oral - rat - 7.060 mg/kg

Remarks: Lungs, Thorax, or Respiration:Other changes

LC50 Inhalation - rat - 10 h - 20000 ppm

Irritation and corrosion

Skin - rabbit - Skin irritation - 24 h

Eyes - rabbit - Mild eye irritation - 24 h

Sensitisation

no data available

Chronic exposure

Carcinogenicity - mouse - Oral

Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Liver: Tumors.
Blood: Lymphomas including Hodgkin's disease.
This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification

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.

Reproductive toxicity - Human - female - Oral

Effects on Newborn: Apgar score (human only). Effects on Newborn: Other neonatal measures or effects.

Effects on Newborn: Drug dependence.

Signs and Symptoms of Exposure

Central nervous system depression, narcosis, Damage to the heart., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Potential Health Effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation
Skin	May be harmful if absorbed through skin. May cause skin irritation
Eyes	May cause eye irritation
Ingestion	May be harmful if swallowed.
Target Organs	Nerves., Liver, Heart

Additional Information

- RTECS: KQ6300000

12 - Ecological Information

Elimination information (persistence and degradability)

no data available

Ecotoxicity effects

Toxicity to fish	LC50 - Oncorhynchus mykiss (rainbow trout) - 13.000,00 mg/l - 96 h LC50 - Oncorhynchus mykiss (rainbow trout) - 10.400,00 mg/l - 96 h LC50 - Pimephales promelas (fathead minnow) - 15.300,00 mg/l - 96 h LC50 - other fish - 10.000,00 mg/l - 24 h
Toxicity to daphnia and other aquatic Invertebrates.	EC50 - Daphnia magna (Water flea) - 9,30 mg/l - 48 h

Further information on ecology

No data available.

13 - Disposal Considerations

Product

- Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

- Dispose of as unused product.

14 - Transport Information

ADR/RID

UN-Number: 1170
 Class: 3
 Packing group: II
 Proper shipping name: ETHANOL

IMDG

UN-Number: 1170
 Class: 3
 Packing group: II EMS-No: F-E, S-D
 Proper shipping name: ETHANOL
 Marine pollutant: No

IATA

UN-Number: 1170
 Class: 3
 Packing group: II
 Proper shipping name: ETHANOL

15 - Regulatory Information

Labelling according to EC Directives

EC Label

Hazard symbols

F	Highly flammable
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R-phrase(s)

R11	Highly flammable.
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S-phrase(s)

S 7	Keep container tightly closed.
S16	Keep away from sources of ignition - No smoking.