Safety data sheet
according to 1907/2006/EC, Article 31

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SECTION 1: Identification of the substance/mixture and of the company/ undertaking

· **1.1 Product identifier**

· **Trade name: heptane**

· **Article number:** 2062
· **CAS Number:**
142-82-5
· **EC number:**
205-563-8
· **Index number:**
601-008-00-2
· **Application of the substance / the mixture**
Laboratory chemicals
Chemical for synthesis

· **1.3 Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
PANREAC QUIMICA S.L.U.
C/Garraf 2
Polígono Pla de la Bruguera
E-08211 Castellar del Vallès (Barcelona)
Tel. (+34) 937 489 400
Fax. (+34) 937 489 401
e-mail: product.safety@panreac.com

· **Further information obtainable from:** email: product.safety@panreac.com
· **1.4 Emergency telephone number:**
Single telephone number for emergency calls: 112 (EU)
Tel.: (+34) 937 489 499

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008**

Flam. Liq. 2	H225 Highly flammable liquid and vapour.
Skin Irrit. 2	H315 Causes skin irritation.
STOT SE 3	H336 May cause drowsiness or dizziness.
Asp. Tox. 1	H304 May be fatal if swallowed and enters airways.
Aquatic Acute 1	H400 Very toxic to aquatic life.
Aquatic Chronic 1	H410 Very toxic to aquatic life with long lasting effects.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008**
The substance is classified and labelled according to the CLP regulation.

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Trade name: heptane

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· **Hazard pictograms**

GHS02 GHS07 GHS08 GHS09

· **Signal word** Danger
· **Hazard statements**
H225 Highly flammable liquid and vapour.
H315 Causes skin irritation.
H336 May cause drowsiness or dizziness.
H304 May be fatal if swallowed and enters airways.
H410 Very toxic to aquatic life with long lasting effects.
· **Precautionary statements**
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P240 Ground and bond container and receiving equipment.
P273 Avoid release to the environment.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P331 Do NOT induce vomiting.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **3.1 Substances**
· **CAS No. Description**
142-82-5 heptane
· **Identification number(s)**
· **EC number:** 205-563-8
· **Index number:** 601-008-00-2

SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information:**
Involve doctor immediately.
Take affected persons out into the fresh air.
· **After inhalation:**
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
In case of unconsciousness place patient stably in side position for transportation.
· **After skin contact:**
Immediately rinse with water.
Immediately remove any clothing soiled by the product.
If skin irritation continues, consult a doctor.
· **After eye contact:**
Rinse opened eye for several minutes under running water.
Protect unharmed eye.
Seek medical treatment.
· **After swallowing:**
Rinse out mouth.
Do not induce vomiting; call for medical help immediately.

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Risk of aspiration!

· **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.

· **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**
· **Suitable extinguishing agents:**
Carbon dioxide
Fire-extinguishing powder
Water spray
Dry sand
Foam
CO2, sand, extinguishing powder. Do not use water.
· **For safety reasons unsuitable extinguishing agents:** Water with full jet
· **5.2 Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Carbon monoxide and carbon dioxide
Forms explosive mixtures with air on intense heating.
Combustible.
Forms explosive mixtures with air at ambient temperatures.
Vapours ara heavier than air and may spread along floors.
Beware of backfiring.
· **5.3 Advice for firefighters**
· **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.
· **Additional information**
Collect contaminated fire fighting water separately. It must not enter the sewage system.
Cool endangered receptacles with water spray.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Contain escaping vapours with water.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
Keep people at a distance and stay on the windward side.
Wear protective equipment. Keep unprotected persons away.
Keep away from ignition sources.
Avoid substance contact.
Do not inhale steams/aerosols.
· **6.2 Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
· **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
Clean up affected area.
· **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

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SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**
Keep away from heat and direct sunlight.
Avoid generation of vapours/aerosols.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).
· **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect from heat.
Protect against electrostatic charges.

· **7.2 Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Store in a cool location.
Prevent any seepage into the ground.
· **Information about storage in one common storage facility:**
Store away from oxidising agents.
Away from sources of ignition and heat.
· **Further information about storage conditions:**
Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.
Open receptacle only under localised extractor facilities.
Store receptacle in a well ventilated area.
Store only outside or in explosion proof rooms.
Store under lock and key and with access restricted to technical experts or their assistants only.
· **Recommended storage temperature:** Room Temperature
· **Storage class:** 3
· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**	
142-82-5 heptane	
WEL	Long-term value: 2085 mg/m³, 500 ppm

· **DNELs**		
Oral	Long-term - systemic effects, general population	149 mg/kg
Dermal	Long-term - systemic effects, worker	300 mg/kg
	Long term - systemic effects, general population	149 mg/kg
Inhalative	Long-term - local effects, worker	2,085 mg/m3
	Long-term - local effects, general population	447 mg/m3

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**
· **Appropriate engineering controls** No further data; see item 7.
· **Individual protection measures, such as personal protective equipment**
· **General protective and hygienic measures:**
Do not inhale gases / fumes / aerosols.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

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· **Respiratory protection:**
Use suitable respiratory protective device only when aerosol or mist is formed.
Filter A
· **Hand protection**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **For the permanent contact gloves made of the following materials are suitable:**
Nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.4 mm
Value for the permeation: Level ≥ 480 min
· **As protection from splashes gloves made of the following materials are suitable:**
Recommended thickness of the material: ≥ 0.65 mm
polychloroprene
Value for the permeation: Level ≥ 60 min
· **Eye/face protection**

Tightly sealed goggles

· **Body protection:**
Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazourdous substances handled.
· **Environmental exposure controls** Prevent seepage into sewage system, workpits and cellars.

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**
· **General Information**

· **Physical state**	Fluid
· **Colour:**	Colourless
· **Odour:**	Nearly odourless
· **Odour threshold:**	Not determined.
· **Melting point/freezing point:**	-90.5 °C
· **Boiling point or initial boiling point and boiling range**	98 °C
· **Flammability**	Not applicable.
· **Lower and upper explosion limit**	
· **Lower:**	1.1 Vol %
· **Upper:**	6.7 Vol %
· **Flash point:**	-4 °C
· **Auto-ignition temperature:**	Not determined.
· **Decomposition temperature:**	Not determined.
· **pH**	Not determined.

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· **Viscosity:**	
· **Kinematic viscosity**	Not determined.
· **Dynamic at 20 °C:**	0.4 mPas
· **Solubility**	
· **water at 20 °C:**	0.05 g/l
· **Partition coefficient n-octanol/water (log value)**	4.66
· **Vapour pressure at 20 °C:**	48 hPa
· **Density and/or relative density**	
· **Density at 20 °C:**	0.684 g/cm³
· **Relative density**	Not determined.
· **Vapour density**	Not determined.

· **9.2 Other information**	
· **Appearance:**	
· **Form:**	Liquid
· **Important information on protection of health and environment, and on safety.**	
· **Ignition temperature:**	215 °C
· **Explosive properties:**	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· **Solvent content:**	
· **VOC (EC)**	100 %
· **Change in condition**	
· **Evaporation rate**	Not determined.

· **Information with regard to physical hazard classes**	
· **Explosives**	Void
· **Flammable gases**	Void
· **Aerosols**	Void
· **Oxidising gases**	Void
· **Gases under pressure**	Void
· **Flammable liquids**	Highly flammable liquid and vapour.
· **Flammable solids**	Void
· **Self-reactive substances and mixtures**	Void
· **Pyrophoric liquids**	Void
· **Pyrophoric solids**	Void
· **Self-heating substances and mixtures**	Void
· **Substances and mixtures, which emit flammable gases in contact with water**	Void
· **Oxidising liquids**	Void
· **Oxidising solids**	Void
· **Organic peroxides**	Void
· **Corrosive to metals**	Void
· **Desensitised explosives**	Void

SECTION 10: Stability and reactivity

· **10.1 Reactivity** Forms explosive gas mixture with air.
· **10.2 Chemical stability**
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
· **10.3 Possibility of hazardous reactions** strong oxidants
· **10.4 Conditions to avoid** Heating
· **10.5 Incompatible materials:** strong oxidants

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· **10.6 Hazardous decomposition products:** In the event of fire: See chapter 5

SECTION 11: Toxicological information

· **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
· **Acute toxicity** Based on available data, the classification criteria are not met.
· **LD/LC50 values relevant for classification:**

· Components	Type	Value	Species
Oral	LD50	>5,840 mg/kg (rat)	
Dermal	LD50	>2,920 mg/kg (rat)	
		3,400 mg/kg (rabbit)	
Inhalative	LC50/4 h	>23.3 mg/l (rat)	

· **Skin corrosion/irritation**
Causes skin irritation.
· **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
· **After inhalation:**
Druwsiness, Vertigo, Headache, Irritation symptoms in the respiratory tract.
Irritant to skin and mucous membranes.
· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
· **Carcinogenicity** Based on available data, the classification criteria are not met.
· **Reproductive toxicity** Based on available data, the classification criteria are not met.
· **STOT-single exposure**
May cause drowsiness or dizziness.
· **STOT-repeated exposure** Based on available data, the classification criteria are not met.
· **Aspiration hazard**
May be fatal if swallowed and enters airways.
· **11.2 Information on other hazards**
· **Endocrine disrupting properties** Substance is not listed.

SECTION 12: Ecological information

· **12.1 Toxicity**
· **Aquatic toxicity:**

· Type of test	Effective concentration	Method	Assessment
EC50/48 h	1.5 mg/l (daphnia magna)		
LC50/24 h	4 mg/l (fish)		

· **12.2 Persistence and degradability** No further relevant information available.
· **12.3 Bioaccumulative potential**
Due to the distribution coefficient n-octanol/water an accumulation in organisms is possible.
· **12.4 Mobility in soil** No further relevant information available.
· **12.5 Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **12.6 Endocrine disrupting properties**
The product does not contain substances with endocrine disrupting properties.
· **12.7 Other adverse effects**
· **Remark:** Very toxic for fish
· **Additional ecological information:**
· **General notes:**
Also poisonous for fish and plankton in water bodies.
Very toxic for aquatic organisms
Do not allow product to reach ground water, water course or sewage system.
Water hazard class 2 (German Regulation) (Assessment by list): hazardous for water

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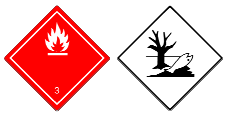
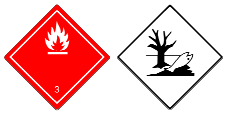
Danger to drinking water if even small quantities leak into the ground.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation**
Chemicals must be disposed of in compliance with the respective national regulations.
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packaging:**
· **Recommendation:**
Disposal must be made according to official regulations.
Packagings that may not be cleansed are to be disposed of in the same manner as the product.

SECTION 14: Transport information

· **14.1 UN number or ID number**	
· **ADR, IMDG, IATA**	UN1206
· **14.2 UN proper shipping name**	
· **ADR**	HEPTANES, ENVIRONMENTALLY HAZARDOUS
· **IMDG**	HEPTANES, MARINE POLLUTANT
· **IATA**	HEPTANES
· **14.3 Transport hazard class(es)**	
· **ADR**	
· **Class**	3 (F1) Flammable liquids.
· **Label**	3
· **IMDG**	
· **Class**	3 Flammable liquids.
· **Label**	3
· **IATA**	
· **Class**	3 Flammable liquids.
· **Label**	3
· **14.4 Packing group**	
· **ADR, IMDG, IATA**	II
· **14.5 Environmental hazards:**	Environmentally hazardous substance, liquid; Marine Pollutant
· **Marine pollutant:**	Yes (P)
· **Special marking (ADR):**	Symbol (fish and tree) Symbol (fish and tree)

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Trade name: heptane

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· **14.6 Special precautions for user**	Warning: Flammable liquids.
· **Hazard identification number (Kemler code):**	33
· **EMS Number:**	F-E,S-D
· **Stowage Category**	B
· **14.7 Maritime transport in bulk according to IMO instruments**	Not applicable.
· **Transport/Additional information:**	
· **ADR**	
· **Limited quantities (LQ)**	1L
· **Excepted quantities (EQ)**	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· **Transport category**	2
· **Tunnel restriction code**	D/E
· **IMDG**	
· **Limited quantities (LQ)**	1L
· **Excepted quantities (EQ)**	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· **UN "Model Regulation":**	UN 1206 HEPTANES, 3, II, ENVIRONMENTALLY HAZARDOUS

SECTION 15: Regulatory information

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

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** Substance is not listed.
· **Seveso category**
E1 Hazardous to the Aquatic Environment
P5c FLAMMABLE LIQUIDS
· **Qualifying quantity (tonnes) for the application of lower-tier requirements** 100 t
· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t

· **National regulations:**

· **Other regulations, limitations and prohibitive regulations**
· **Substances of very high concern (SVHC) according to REACH, Article 57** Substance is not listed.
· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

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SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Abbreviations and acronyms:**
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
P: Marine Pollutant
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
DNEL: Derived No-Effect Level (REACH)
LC50: Lethal concentration, 50 percent

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LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 2: Flammable liquids – Category 2
Skin Irrit. 2: Skin corrosion/irritation – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
Asp. Tox. 1: Aspiration hazard – Category 1
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
· *** Data compared to the previous version altered.**

Annex: Exposure scenario

· **Short title of the exposure scenario** Formulation and packing/repacking of substances and mixtures
· **Description of the activities / processes covered in the Exposure Scenario**
See section 1 of the annex to the Safety Data Sheet.
· **Conditions of use**
· **Duration and frequency** 5 workdays/week.
· **Physical parameters**
· **Physical state** Fluid
· **Concentration of the substance in the mixture** Raw material.
· **Other operational conditions**
· **Other operational conditions affecting environmental exposure** Use only on hard ground.
· **Other operational conditions affecting worker exposure**
Avoid contact with the skin.
Take precautionary measures against static discharge.
Keep away from sources of ignition - No smoking.
· **Other operational conditions affecting consumer exposure** No special measures required.
· **Other operational conditions affecting consumer exposure during the use of the product**
Not applicable.
· **Risk management measures**
· **Worker protection**
· **Organisational protective measures** No special measures required.
· **Technical protective measures**
Provide explosion-proof electrical equipment.
Use product only in enclosed systems.
Ensure that suitable extractors are available on processing machines
· **Personal protective measures**
Do not inhale gases / fumes / aerosols.
Avoid contact with the skin.
Protective gloves
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· **Measures for consumer protection** Ensure adequate labelling.
· **Environmental protection measures**
· **Water** Do not allow to reach sewage system.
· **Soil** Prevent contamination of soil.
· **Disposal measures** Ensure that waste is collected and contained.
· **Disposal procedures**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
· **Waste type** Partially emptied and uncleaned packaging
· **Exposure estimation**
· **Consumer** Not relevant for this Exposure Scenario.
· **Guidance for downstream users** No further relevant information available.