

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

### 1.1 Product identifier

**Trade name:** Monocell ® R

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

No further relevant information available.

#### **Application of the substance / the mixture:**

Used mainly as raw material for the manufacturing of foamed thermal insulation and for an extensive range of cushioning and insulation packaging. The finished goods are produced with a molding process combined with the use of steam.

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

#### **Manufacturer/Supplier:**

MONOTEZ S.A.

Headquarters:

Neratziotissis 115, 15124 Maroussi, Athens, Greece

Tel.: (+30) 214 40 08 400 | Fax: (+30) 214 40 08 404

E-mail: [info@monotez.com](mailto:info@monotez.com) | Website: [www.monotez.com](http://www.monotez.com)

Factory:

Industrial Area, 320 11 Inofyta

Viotia, Greece

Tel.: (+30) 2262031257 | Fax: (+30) 2262031258

### 1.4 Emergency telephone number

Security/Transport phone number: +30 698 684 52 89



National Poisons Information Centre: +353 (1) 809 2166 (8.00 a.m. to 10.00 p.m. 7 days a week)  
Healthcare Professionals: +353 (1) 809 2566 (24 hour service)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### **Classification according to Regulation (EC) No 1272/2008:**

The product is not classified, according to the CLP regulation.

### 2.2 Label elements

**Labelling according to Regulation (EC) No 1272/2008:** Void

**Hazard pictograms:** Void

**Signal word:** Void

**Hazard statements:** Void

#### **Precautionary statements:**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P243 Take action to prevent static discharges.

P273 Avoid release to the environment.

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

#### **Additional information:**

EUH018 In use form flammable/explosive vapour-air mixture.

### 2.3 Other hazards

#### **Results of PBT and vPvB assessment:**

**PBT:** Not applicable.

**vPvB:** Not applicable.

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## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

**Description:**

Polystyrene (CAS N° 9003-53-6), containing pentane isomers as blowing agent and flame retardant.

**Dangerous components:**

CAS: 109-66-0	pentane	<5%
EINECS: 203-692-4	 Flam. Liq. 2, H225	
Index number: 601-006-00-1	 Asp. Tox. 1, H304	
Reg.nr.: 01-2119459286-30-xxxx	 Aquatic Chronic 2, H411	
	 STOT SE 3, H336	
	EUH066	
CAS: 78-78-4	isopentane	<2%
EINECS: 201-142-8	 Flam. Liq. 1, H224	
Index number: 601-006-00-1	 Asp. Tox. 1, H304	
Reg.nr.: 01-2119475602-38-xxxx	 Aquatic Chronic 2, H411	
	 STOT SE 3, H336	
	EUH066	

**Additional information:** For the wording of the listed hazard phrases refer to section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

**General information:** Take affected persons out into the fresh air.

**After inhalation:**

Take affected persons into fresh air and keep quiet.

Seek medical treatment in case of complaints.

Symptom: dizziness, vertigo, dizziness, headache, incoordination.

**After skin contact:**

Symptom: Irritation.

If skin irritation continues, consult a doctor.

**After eye contact:** Symptom: Irritation.

**After swallowing:**

Rinse out mouth and then drink plenty of water.

Never give anything by mouth to an unconscious person.

### 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:**

CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

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

In case of fire, the following can be released:

Carbon monoxide (CO)

carbon dioxide (CO<sub>2</sub>)

Can form explosive gas-air mixtures.

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### 5.3 Advice for firefighters

Remove all persons from the incident.

Do not attempt to fight the fire without proper protective equipment:

- Self-contained breathing apparatus.
- Independent respirators.

**Protective equipment:** Wear a fully protective suit.

#### Additional information

Collect contaminated fire fighting water separately. It must not enter the sewage system.

## 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.

Keep away from ignition sources.

Particular danger of slipping on leaked/spilled product.

Wear appropriate footwear.

Pentane vapour leaks into the air can cause explosive atmospheres, heavier than air vapours.

### 6.2 Environmental precautions

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter drains / surface or ground water.

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

It is collected mechanically using anti-explosive equipment and placed in containers suitable for disposal.

### 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.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling Thorough dedusting.

#### Information about fire - and explosion protection:

Use explosion-proof apparatus / fittings and spark-proof tools.

The equipment should be grounded.

Protect against electrostatic charges.

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

#### Storage:

#### Requirements to be met by storerooms and receptacles:

Ground penetration is strictly prohibited.

Store away from heat, ignition sources, sunlight and incompatible substances.

The use of explosive atmosphere detectors is recommended.

**Information about storage in one common storage facility:** Do not store near flammable materials.

**Further information about storage conditions:** Store only outside or in explosion proof rooms.

### 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:

##### 109-66-0 pentane

OEL Long-term value: 3000 mg/m<sup>3</sup>, 1000 ppm

IOELV

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**78-78-4 isopentane**

OEL Long-term value: 3000 mg/m<sup>3</sup>, 1000 ppm  
IOELV

**DNELs**

DNELs values

Pentane (CAS 109-66-0):

- Exposure of workers:

Acute inhalation toxicity, long-term, systemic effects: 3000 mg/m<sup>3</sup>

Acute dermal toxicity, long-term, systemic effects: 432 mg/kg bw/day

- General population exposure:

Acute toxicity, inhalation, long-term, systemic effects: 643 mg/m<sup>3</sup>

Acute dermal toxicity, long-term, systemic effects: 214 mg/kg bw/day

Acute oral toxicity, long-term, systemic effects: 214 mg/kg bw/day

Methyl butane (CAS 78-78-4):

- Worker exposure:

Acute inhalation toxicity, long-term, systemic effects: 3000 mg/m<sup>3</sup>

Acute dermal toxicity, long-term, systemic effects: 432 mg/kg bw/day

- General population exposure:

Acute toxicity, inhalation, long-term, systemic effects: 643 mg/m<sup>3</sup>

Acute toxicity dermal, long-term, systemic effects: 214 mg/kg bw/day

Acute oral toxicity, long-term, systemic effects: 214 mg/kg bw/day

**PNECs**

Pentane (CAS 109-66-0)

PNEC fresh water: 230 µg/l

PNEC seawater: 230 µg/l

PNEC Sediment, fresh water: 1,2 mg/kg

PNEC Sediment, seawater: 1,2 mg/kg

PNEC Soil: 0,55 mg/kg

PNEC Waste water treatment plants: 3600 µg/l

**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:** Wash hands before breaks and at the end of work.

**Respiratory protection:**

Suitable respiratory protective device recommended.

Filter AX

**Hand protection:**

(EN ISO 374)



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:**

Permeability time: 8 h

Fluoro carbon rubber - FKM

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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

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## Penetration time of glove material:

The determined penetration times according to EN 16523-1:2015 are not performed under practical conditions. Therefore a maximum wearing time, which corresponds to 50% of the penetration time, is recommended.

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

## Eye/face protection:



It is recommended to use protective goggles with sidewalls, either completely fitting.

## Body protection:



Protective workwear with antistatic properties (EN ISO 1149-5).

Use of non-slip (EN ISO 13287), anti-static safety footwear.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### General Information

Physical state:	Solid
Colour:	White
Odour:	Characteristic
Odour threshold:	Not determined.
Melting point/freezing point:	Undetermined.
Boiling point or initial boiling point and boiling range:	Undetermined.
Flammability:	Not determined.
Lower and upper explosion limit	
Lower:	1.4 Vol %
Upper:	7.8 Vol %
Flash point:	< 50 °C
Ignition temperature:	285 °C
Decomposition temperature:	Not determined.
pH:	Not applicable.
Viscosity:	
Kinematic viscosity	Not applicable.
Dynamic:	Not applicable.
Solubility	
water:	Insoluble.
Partition coefficient n-octanol/water (log value):	Not determined.
Vapour pressure:	Not applicable.
Density and/or relative density	
Density:	Not determined.
Relative density at 20 °C:	1020-1050 kg/m <sup>3</sup>
Bulk density:	600 kg/m <sup>3</sup>
Vapour density:	2.5 (air=1)
Particle characteristics:	See item 3.

### 9.2 Other information

#### Appearance:

Form: Granulate

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## Important information on protection of health and environment, and on safety

**Auto-ignition temperature:**

Product is not selfigniting.

**Explosive properties:**

Product does not present an explosion hazard.  
In use, may form flammable/explosive vapour-air mixture.

**Change in condition**

**Evaporation rate:**

Not applicable.

## Information with regard to physical hazard classes

**Explosives:** Void

**Flammable gases:** Void

**Aerosols:** Void

**Oxidising gases:** Void

**Gases under pressure:** Void

**Flammable liquids:** Void

**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** No further relevant information available.

**10.2 Chemical stability** Under normal conditions of use and storage, it is stable.

**Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

### 10.3 Possibility of hazardous reactions

Polymerisation.

Forms explosive gas mixture with air.

**10.4 Conditions to avoid** Heat.

**10.5 Incompatible materials** No further relevant information available.

### 10.6 Hazardous decomposition products

The release rate of pentane increases with temperature. The pellets expand with the rapid evolution of pentane at 70-75 °C.

The product decomposes above 200 °C.

Hydrocarbons

Combustion produces carbon monoxide, carbon dioxide along with smoke.

## 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.

**Skin corrosion/irritation:** Based on available data, the classification criteria are not met.

**Serious eye damage/irritation:** Based on available data, the classification criteria are not met.

**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.

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**Reproductive toxicity:** Based on available data, the classification criteria are not met.  
**STOT-single exposure:** Based on available data, the classification criteria are not met.  
**STOT-repeated exposure:** Based on available data, the classification criteria are not met.  
**Aspiration hazard:** Based on available data, the classification criteria are not met.

#### 11.2 Information on other hazards

##### Endocrine disrupting properties:

None of the ingredients is listed.

## SECTION 12: Ecological information

### 12.1 Toxicity

**Aquatic toxicity:** No further relevant information available.

**12.2 Persistence and degradability** No further relevant information available.

**12.3 Bioaccumulative potential** No further relevant information available.

**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

#### Additional ecological information:

##### General notes:

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

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

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Recommendation:

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

#### European waste catalogue:

07 02 13 waste plastic

#### Uncleaned packaging:

##### Recommendation:

Contaminated casings should be emptied as best as possible, otherwise you can use them again after appropriate cleaning.

Deposition is carried out in accordance with official instructions.

Once cleaned, the container can be reused or the material can be recycled.

Alternatively, incineration at a time of 2 seconds and a temperature above 1200 °C, dispatch to wet scrubbing facilities or authorised landfills are appropriate disposal methods.

## SECTION 14: Transport information

### 14.1 UN number or ID number

ADR, IMDG, IATA

UN2211

### 14.2 UN proper shipping name

ADR

IMDG

IATA

2211 POLYMERIC BEADS, EXPANDABLE mixture

POLYMERIC BEADS, EXPANDABLE mixture

Polymeric beads, expandable mixture

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## 14.3 Transport hazard class(es)

**ADR, IMDG, IATA**

**Class**

9 Miscellaneous dangerous substances and articles.

**Label**

-

## 14.4 Packing group

**ADR, IMDG, IATA**

III

## 14.5 Environmental hazards:

Not applicable.

## 14.6 Special precautions for user

Warning: Miscellaneous dangerous substances and articles.

**Hazard identification number (Kemler code):**

90

**EMS Number:**

F-A,S-I

**Stowage Category:**

E

**Stowage Code:**

SW1 Protected from sources of heat.

SW6 When stowed under-deck, mechanical ventilation shall be in accordance with SOLAS regulation II-2/19 (II-2/54) for flammable liquids with flashpoint below 23°C c.c.

**Segregation Code:**

SG5 Segregation as for class 3

SG14 Stow "separated from" class 1 except for division 1.4S

## 14.7 Maritime transport in bulk according to IMO instruments

Not applicable.

## Transport/Additional information:

### ADR

**Limited quantities (LQ):**

5 kg

**Excepted quantities (EQ):**

Code: E1

Maximum net quantity per inner packaging: 30 g

Maximum net quantity per outer packaging: 1000 g

**Transport category:**

3

**Tunnel restriction code:**

D/E

### IMDG

**Limited quantities (LQ):**

5 kg

**Excepted quantities (EQ):**

Code: E1

Maximum net quantity per inner packaging: 30 g

Maximum net quantity per outer packaging: 1000 g

### IATA

**Remarks:**

Special Provison 965

**UN "Model Regulation":**

UN 2211 POLYMERIC BEADS, EXPANDABLE MIXTURE, III

## SECTION 15: Regulatory information

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

CLP Regulation (EC) No 1272/2008.

REACH Regulation 1907/2006/EC.

Council Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from risks related to chemical agents at work

Directive 94/33/EC on the protection of young people at work, as amended and in force.

Directive 92/85/EEC on the introduction of measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding, as amended and in force.

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**Directive 2012/18/EU**

**Named dangerous substances - ANNEX I** None of the ingredients is listed.

**Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**

None of the ingredients is listed.

**Regulation (EU) 2019/1148****Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**

None of the ingredients is listed.

**Annex II - REPORTABLE EXPLOSIVES PRECURSORS**

None of the ingredients is listed.

**Regulation (EC) No 273/2004 on drug precursors**

None of the ingredients is listed.

**Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**

None of the ingredients is listed.

**15.2 Chemical safety assessment** A Chemical Safety Assessment has not been carried out.

**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.

**Relevant phrases:**

- H224 Extremely flammable liquid and vapour.
- H225 Highly flammable liquid and vapour.
- H304 May be fatal if swallowed and enters airways.
- H336 May cause drowsiness or dizziness.
- H411 Toxic to aquatic life with long lasting effects.
- EUH066 Repeated exposure may cause skin dryness or cracking.

**Version number of previous version: 2****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
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- DNEL: Derived No-Effect Level (REACH)
- PNEC: Predicted No-Effect Concentration (REACH)
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Flam. Liq. 1: Flammable liquids – Category 1
- Flam. Liq. 2: Flammable liquids – Category 2
- STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
- Asp. Tox. 1: Aspiration hazard – Category 1
- Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2