

NOVEXPANS

U 13

INVENTEC
PERFORMANCE CHEMICALS



PERFORMANCES

The **NOVEXPANS™ U13** is a **cyclopentane** with guaranteed specifications (*high cyclopentane content*) used as an **expansion agent** in rigid **polyurethane foams** expansion.

Because of its **low coefficient of thermal conductivity**, it is used for **insulation foams in the white line** (*household electrics*) and blocks manufacturing.

The R11 classification is an asset in complying with the legislation on flammable products storage.

Harmless to the ozone layer, it is **especially fit as a substitute for the HCFC 141 b**.

SPECIFICATIONS

Standard characteristics	Limit values
Appearance	clear
Purity	≥ 95 % weight
Benzene content	≤ 2 ppm weight

CHARACTERISTICS

		Units	Values
Chemical Formula			C₅H₁₀
Molecular weight		g/mol	70
Boiling point	at 1,013 bar	° C	48
Liquid density	at 20°C at 50°C	kg/dm ³ kg/dm ³	0,735 0,700
Absolute pressure	saturating vapor at 20°C saturating vapor at 50°C	bar bar	0,36 1,06
Latent heat of vaporization	at boiling point	kJ/kg	389
Flash point	closed cup	°C	< -7
Flammability limit	In the air at 20° C below 1,013 bar	% volume % volume	1,1 8,7
Auto-ignition temperature		° C	> 200
λ	at 25°C	mW/m.°K	12,3

PACKAGING

	Drum	Container	Bulk
Capacity (liter)	217	930	5 to 20 T
Tare (kg)	22	460	
Load (kg)	120	500	
Diameter (mm)	585	860	
Height (mm)	880	2330	
Outflow external diameter (mm)	3/4" & 2"	26,1	
Tap : left pitch (mm)	---	1,814	
Test pressure (bar)	---	33	

- Packaging technical characteristics available upon request to the commercial department.
- Feasibility of filling packaging of the customers if they are in conformity with the legislation.
- Contact us for any other specific packaging.

STORAGE AND SHELF LIFE

Precautions for handling and storage:

French plants are controlled by the regulation of listed Establishments and have to comply with it (or with the local legislation).

- All packaging will be stored in a dry, well-ventilated, easily accessible place, sheltered from sunlight and bad weather, away from any ignition source.
- It is recommended to store all packaging either in a specific place or isolated and sheltered by a fence.
- All packaging and piping will be grounded to discharge static electricity.
- Leak detectors, put at ground level, will be connected to an audible alarm, which will trigger in the event of leaks.
- The whole equipment will be tested with an appropriate leak detector before use.
- Material and electrical equipment in an explosive atmosphere will comply with the regulations (*grounding, equipotential bonding, ATEX material*).

INVENTEC can study the set up and assembling of your storage tanks, piping, and pumps, according to the prevailing regulations.

CONDITIONS OF USE

Please refer to the Material Safety Data Sheet (MSDS) before using the product.
Workers handling the product should be trained about risks and preventive measures.

The NOVEXPANS™ U13 is compatible with:

- The following plastics :
 - ✓ Polyethylene
 - ✓ Polypropylene
 - ✓ Polyester
 - ✓ Teflon
- The following metals :
 - ✓ Stainless steel
 - ✓ Ordinary or au carbon steel

The NOVEXPANS™ U13 is not compatible with:

- ✓ Natural or butyl rubbers
- ✓ Polystyrene
- ✓ Oxidizing agents
- ✓ Combustive agents

Measures while handling :

- Collect vapors at emission point,
- Use spark-free tools (*beryllium bronze*),
- Ground the equipment,
- Work in a well ventilated premises to avoid accumulating static discharges.

HEALTH SAFETY AND ENVIRONMENT (HSE)

Consult the Material Safety Datasheet (MSDS) on the website : www.quickfds.com

This data is based on information that the manufacturer believed to be reliable and offered in good faith. On no account, Inventec will be responsible for special, incidental and consequential damages. The user is responsible, to the Administrative Authorities (Regulation of the listed establishments for the protection of the environment), for the conformity of his installation.