

## Vinyl ethers are suitable

- Monomers for high performance polymers
- Cross-linkers in specialty polymer synthesis
- Synthesis of aroma and agro chemicals
- Reactive diluents for thermally curing composites
- Reactive diluents for UV-curable coatings and printing inks

 **BASF**

We create chemistry

Intermediates

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**The broadest portfolio  
of vinyl monomers**



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# BASF – We create Chemistry

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At BASF, we create chemistry. Our portfolio ranges from chemicals, plastics, performance products and crop protection products to oil and gas. As the world's leading chemical company, we combine economic success with environmental protection and social responsibility. Through science and innovation, we enable our customers in nearly every industry to meet the current and future needs of the society. Our products and solutions contribute to conserving resources, ensuring nutrition and improving quality of life. We have summed up this contribution in our corporate purpose: We create chemistry for a sustainable future.

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## Top intermediates supplier

The BASF Group's Intermediates division develops, produces and markets a comprehensive portfolio of about 700 intermediates around the world. Its most important product groups include amines, diols, polyalcohols, acids and specialties. Intermediates are for example used as starting materials for coatings, plastics, pharmaceuticals, textiles, detergents and crop protectants. Innovative intermediates from BASF help to improve both the properties of final products and the efficiency of production processes. The ISO 9001 certified Intermediates division operates plants at production sites in Europe, Asia and North America.



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## Experts in functional vinyl monomers

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At BASF, we focus on our extensive resources to provide high-quality functional vinyl monomer products and services to meet our customers' needs. Customers can rely on us for the broadest portfolio of functional vinyl monomers to meet their needs for specific applications. With state-of-the-art know-how and technology and our comprehensive experience as a global chemicals supplier, we set the global standard for the development and production of intermediate chemicals. World-scale capacities and advanced logistics ensure reliable delivery and allow for just-in-time supply.

Our team of vinyl monomer experts provides you with counseling to help you get the best results for your products. As our customer, you can also rely on the analytical expertise of our global analytics center and its customized services for invariably high-quality products. By delivering this value, we work to earn trust as your preferred long-term partner.



*In our coatings laboratory facility in Ludwigshafen we keep developing our products for the coatings industry, for example chemical intermediates like vinyl monomers.*

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## Leading technology for world-scale capacities

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Our global leadership in acetylene chemistry has made us the leader for the development and production of functional vinyl monomers. With an ever-expanding product portfolio, we can satisfy your needs for functional vinyl monomers now and in the future.

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*We offer the world's most extensive line of functional vinyl monomers both in lab and world-scale quantities.*



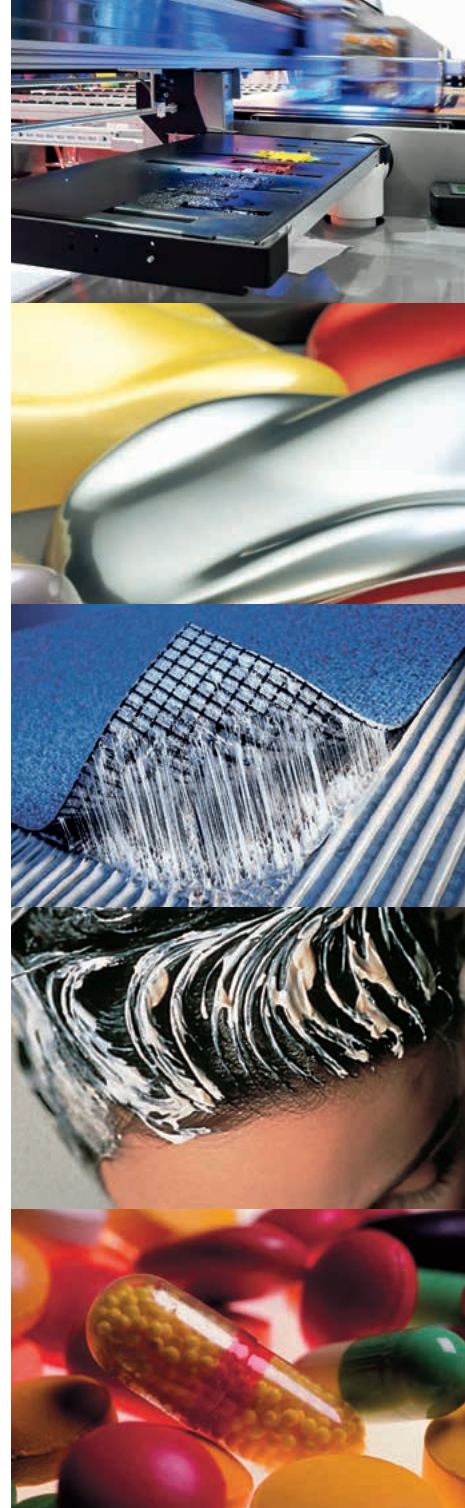
## Innovative applications

Our functional vinyl monomers can be used for the most demanding applications. With high reactivity, exceptional quality and lot-to-lot consistency, they are the best choice for a wide range of syntheses including polymerization, addition and electrocyclic reactions.

They can be used as:

- Monomers for polymerization
- Cross-linking monomers
- Building blocks for aroma and agro chemicals
- Reactive diluents for UV curing

We have also played a key role in the creation of many applications, such as UV inks, UV coatings, adhesives, polymers and pharmaceuticals. And we can help you to be more successful with your new applications. Creating customized solutions we have a long history of supporting customers with our extensive range of technical and chemical know-how.











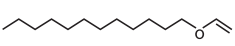
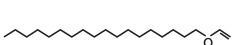
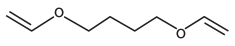
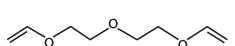
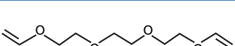
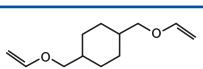
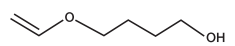
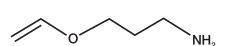
*Our vinyl monomers are used in many different applications such as UV inks, UV coatings, adhesives, polymers and pharmaceuticals.*

**Our technical support for functional vinyl monomers includes a wide range of activities and services:**

- Analytical services
- Customized product quality
- Eco-efficiency analysis
- Tailor-made compounds
- Joint R&D activities
- Logistics consulting



# Vinyl monomers portfolio

International name	Formula	CAS No.	Registration
<b>N-Vinyl compounds</b>			
Vinyl Methyl Oxazolidinone (VMOX) <span style="background-color: #0056b3; color: white; padding: 2px;">New</span>		3395-98-0	REACH and PICCS (released), DSL and CHEMINV (restriction on quantities), TSCA (submitted), IECSC and ENCS/IS (in preparation).
N-Vinyl-pyrrolidone (NVP)		88-12-0	NECSI, CHEMINV, NZIOC, TSCA, PICCS, ECL, ENCS, IECSC, DSL, AICS
N-Vinyl-caprolactam (NVC)		2235-00-9	NECSI, CHEMINV, NZIOC, TSCA, PICCS, ECL, ENCS, IECSC, DSL, AICS, REACH
N-Vinyl-imidazole (VIM)		1072-63-5	NECSI, CHEMINV, NZIOC, TSCA, PICCS, ECL, ENCS, IECSC, DSL, AICS, REACH
N-Vinyl-N-Methylacetamide (VIMA)		3195-78-6	NECSI, CHEMINV, TSCA, ENCS, IECSC, DSL, AICS, REACH
<b>O-Vinyl compounds</b>			
Ethyl vinyl ether (EVE)		109-92-2	NECSI, CHEMINV, NZIOC, TSCA, PICCS, ECL, ENCS, IECSC, DSL, AICS, REACH
iso-Butyl vinyl ether (IBVE)		109-53-5	NECSI, CHEMINV, NZIOC, TSCA, PICCS, ECL, ENCS, IECSC, DSL, AICS, REACH
Cyclohexyl vinyl ether (CHVE)		2182-55-0	NECSI, CHEMINV, NZIOC, TSCA, PICCS, ECL, ENCS, DSL, REACH
Dodecyl vinyl ether (DDVE)		765-14-0	NECSI, CHEMINV, NZIOC, TSCA, ECL, ENCS, IECSC, DSL, REACH
Octadecyl vinyl ether (ODVE)		930-02-9	NECSI, CHEMINV, TSCA, PICCS, ECL, ENCS, IECSC, DSL, REACH
<b>Divinyl compounds</b>			
1,4-Butanediol divinyl ether (BDDVE)		3891-33-6	NECSI, CHEMINV, NZIOC, TSCA, PICCS, ENCS, IECSC, DSL, AICS, REACH
Diethyleneglycol divinyl ether (DVE-2)		764-99-8	NECSI, CHEMINV, NZIOC, TSCA, PICCS, ENCS, IECSC, DSL, REACH
Triethyleneglycol divinyl ether (DVE-3)		765-12-8	NECSI, CHEMINV, NZIOC, TSCA, PICCS, ECL, ENCS, IECSC, DSL, AICS, REACH
1,4-Cyclohexanedimethanol divinyl ether (CHDM-di)		17351-75-6	NECSI, CHEMINV, NZIOC, TSCA, PICCS, ECL, ENCS, IECSC, DSL, REACH
<b>Hydroxy vinyl compounds</b>			
Hydroxybutyl vinyl ether (HBVE)		17832-28-9	NECSI, CHEMINV, NZIOC, TSCA, PICCS, ECL, ENCS, IECSC, DSL, REACH
<b>Other vinyl compounds</b>			
3-Amino propyl vinyl ether (APVE) (only R&D sample)		66415-55-2	DSL, ISHL, ENCS/IS, ENCS, PICCS, NECSI (restriction on quantity), REACH

Melting point	Boiling point (1013.25 hPa)	Flash point (DIN 51751)	Viscosity (20 °C)	Density (20 °C)
20 °C	254 °C	132 °C	4.4 mPa·s	1.0983 g/cm <sup>3</sup>
13 – 14 °C	218 °C	95 °C	2.1 mPa·s	1.043 g/cm <sup>3</sup>
34 °C	113 – 116 °C (13 mbar)	114 °C	3.52 mPa·s (40 °C)	1.01 g/cm <sup>3</sup> (40 °C)
-105 °C	192 °C	84 °C	2.2 mPa·s	1.039 g/cm <sup>3</sup>
-36 °C	165 – 168 °C	59 °C	1.28 mPa·s	0.96 g/cm <sup>3</sup>
-115 °C	36 °C	-45 °C	0.2 mPa·s	0.754 g/cm <sup>3</sup>
-112 °C	83 °C	-15 °C	0.41 – 0.46 mPa·s	0.769 g/cm <sup>3</sup>
-109 °C	150 – 152 °C	35 °C	1.2 mPa·s	0.891 g/cm <sup>3</sup>
-12 °C	90 °C (1 mbar)	113 °C	2.76 mPa·s	0.817 g/cm <sup>3</sup>
31 °C	342 °C	174 °C	4.16 mPa·s (40 °C)	0.812 g/cm <sup>3</sup> (40 °C)
-8 °C	166 °C	58 °C	1.3 mPa·s	0.898 g/cm <sup>3</sup>
-21 °C	191 °C	82 °C	1.97 mPa·s	0.968 g/cm <sup>3</sup>
-12.6 °C	252.9 °C	127 °C	3.84 mPa·s	1.00 g/cm <sup>3</sup>
6 °C	104 °C (4 mbar)	112.5 °C	4.41 mPa·s (25 °C)	0.951 g/cm <sup>3</sup> (30 °C)
-33 °C	189 °C	88 °C	6.106 mPa·s	0.944 g/cm <sup>3</sup>
-57 °C	141 – 142 °C	39 °C	1.21 mPa·s	0,891 g/cm <sup>3</sup>





*Walter Reppe, inventor of the Reppe process, began his interest in acetylene in 1928.*

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## Experience in acetylene chemistry

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We have more than 90 years of experience in functional vinyl monomers. This dates back to the groundbreaking discovery of how to control acetylene pressure reactions by German chemical engineer Walter Reppe. We remain fully committed to producing high-quality acetylene-based vinyl compounds on a large scale.

Research and development are core BASF competencies and the basis for generating the world's most extensive line of functional vinyl monomers. Our large, modern multi-purpose plants produce tons of special compounds of unmatched quality. We can provide customized products to meet the specific demands of our customers.

All BASF production facilities are equipped with the latest process control technologies and meet high safety and ecological standards.

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*We can provide customized products that meet specific needs.*



## Innovation is key



*At BASF, we have access to around 10,100 colleagues in research and development worldwide.*

The New Business Development team of the BASF Intermediates division, operating in Europe, North America and Asia, specializes in the life sciences sector, general industrial and coatings applications.

Based on its extensive expertise, the team endeavors to develop new chemicals to support our customers in their innovation needs. The emphasis is on maintaining close contact with customers while offering the benefits of being part of BASF's global Verbund of integrated research and production structures.

Our team has direct access to BASF's three competence centers and thus to 10,100 colleagues working in research and development. In addition, the team can rely on a vast number of state-of-the-art multi-product manufacturing plants. Our customers receive tailor-made intermediates that we produce to their individual requirements in both small lab and world-scale quantities.

Complementing our product range, we offer extensive services to provide solutions that meet the particular demand of small and medium-sized companies: At BASF, we develop suitable analytical methods and logistics solutions and assist with the notification of new substances as well as patent-law and environmental issues.





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## Contact us

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### Please email us at:

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### For further information and your regional contact, please visit our website:

[www.intermediates.basf.com/chemicals/vinyl-monomers\\_ethers](http://www.intermediates.basf.com/chemicals/vinyl-monomers_ethers)







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