

ALNOVOL[®] UF 410

PRELIMINARY PRODUCT INFORMATION

TYPE

Carbamic resin based on butylurethane and formaldehyde

FORM OF DELIVERY (f.o.d.)

slightly yellow, high viscous liquid with characteristic odour

DEVELOPMENT PRODUCT

This product is serving for trial purposes only. Deviations which might occur during transfer into manufacturing in a commercial scale are possible and do not constitute any material defect.

SPECIAL PROPERTIES AND USES

Plasticizing component and compatibility promoter for rubber compounds.
Reactiv thinner for Beat and Apex compounds.

TENTATIVE PRODUCT DATA

Determined per batch:

Dynamic Viscosity (Ubbelohde) DIN 53177
dynamic viscosity [mPa.s] 6000 - 12000
(23 °C)

Non-Volatile Matter DIN EN ISO 3251
non-volatile matter [%] > 95
(1 h; 125 °C; 2 g; T)

Colour Scale (Hazen) DIN EN ISO 6271-1
Hazen colour value ≤ 300

COMPATIBILITY AND DILUTABILITY

Alnovol UF 410 is unlimited dilutable with aromatic hydrocarbons, esters, glycol ethers, ketones and chlorinated hydrocarbons. It is largely dilutable with lower alcohols and aliphatic hydrocarbons.

Alnovol UF 410 is compatible with most of the synthetic and natural rubbers.

PROPERTIES AND USES

Alnovol UF 410 has the properties of a plasticizer as well as that of a soft resin. It contains no organic solvents. It is light-fast and heat resistant and stable against hydrolysis.

Alnovol UF 410 can be used as replacement of processing oils in Beat and/or Apex compounds. It generates similar mixing and processing properties, due to the reactive groups it can be crosslinked by the reinforcing resin hardener and increases hardness during vulcanisation. Due to the crosslinking Alnovol UF 410 has no negative impact on heat build-up. In case of resorcinol compounds it increases the vulcanisation speed also.

Alnovol UF 410 is able to be used in NBR compounds also. In this case it works like a plasticizer.

PROCESSING

Alnovol UF 410 can be added to the internal mixer together with carbon black directly, but a partly or full dosage at the final step is possible due to its easy incorporation too. It efficiently reduces Mooney viscosity. Because of its viscosity effect extrusion works well and shape and surface is improved. If Alnovol UF 410 is used as a replacement of oil a partner to develop the positive effects in specific compounds is needed. These are especially Alnovol PN 320 (reinforcing resin), Alnovol PN 760 (adhesion promoter) or any kind of resorcinol structure. As soon as hardeners like HMT or HMMM (e. g. Cyrez 964) are added to the compound processing temperature shouldn't stay too long above 125 °C because of starting the crosslinking reaction for the resins.

STORAGE

At temperatures up to 25 °C storage stability packed in original containers amounts to at least 1080 days.

A cloudiness, which may occur is reversible and has no effect onto the quality of the product. A short warming to approx. 60 °C will return it to its original state.

REMARK:

Data contained in this publication are based on careful investigations (and are intended for information only). Due to scale up of this product there is not yet sufficient experience concerning serial production. We can therefore not exclude, that based on future knowledge product data and other indicated properties in upcoming Technical Data Sheets will be subject to change. We reserve the right to leave the product name unchanged, even if product data or other indicated properties will vary from the present product info. Regardless of the data contained in this publication any user is obliged to carry out tests under his own responsibility as to the suitability of the product for a particular use and to investigate the possible violation of industrial property rights of third parties. Information is therefore not binding and cannot be construed as guaranteeing specific properties of products. We apply our General Sales Conditions.

3.0/16.10.2015 { replaces 2.0/17.09.2013 }

• Worldwide Contact Info: www.allnex.com •

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D-65203 Wiesbaden
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CHEMICAL MARKETING
CONCEPTS EUROPE
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Niederlande

Customer-No.: 18839
Your order no.: Tel. H. Stracke
Delivery note no.: 80857654
Order-No.: 769642
Matrrial-No.: 210688
Material: ALNOVOL UF 410

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at 24.09.2014
at 24.09.2014

certificate of analysis according to EN 10204 3.1

Date: 24.09.2014

Batch: 120038028 Quantity: 200 kg

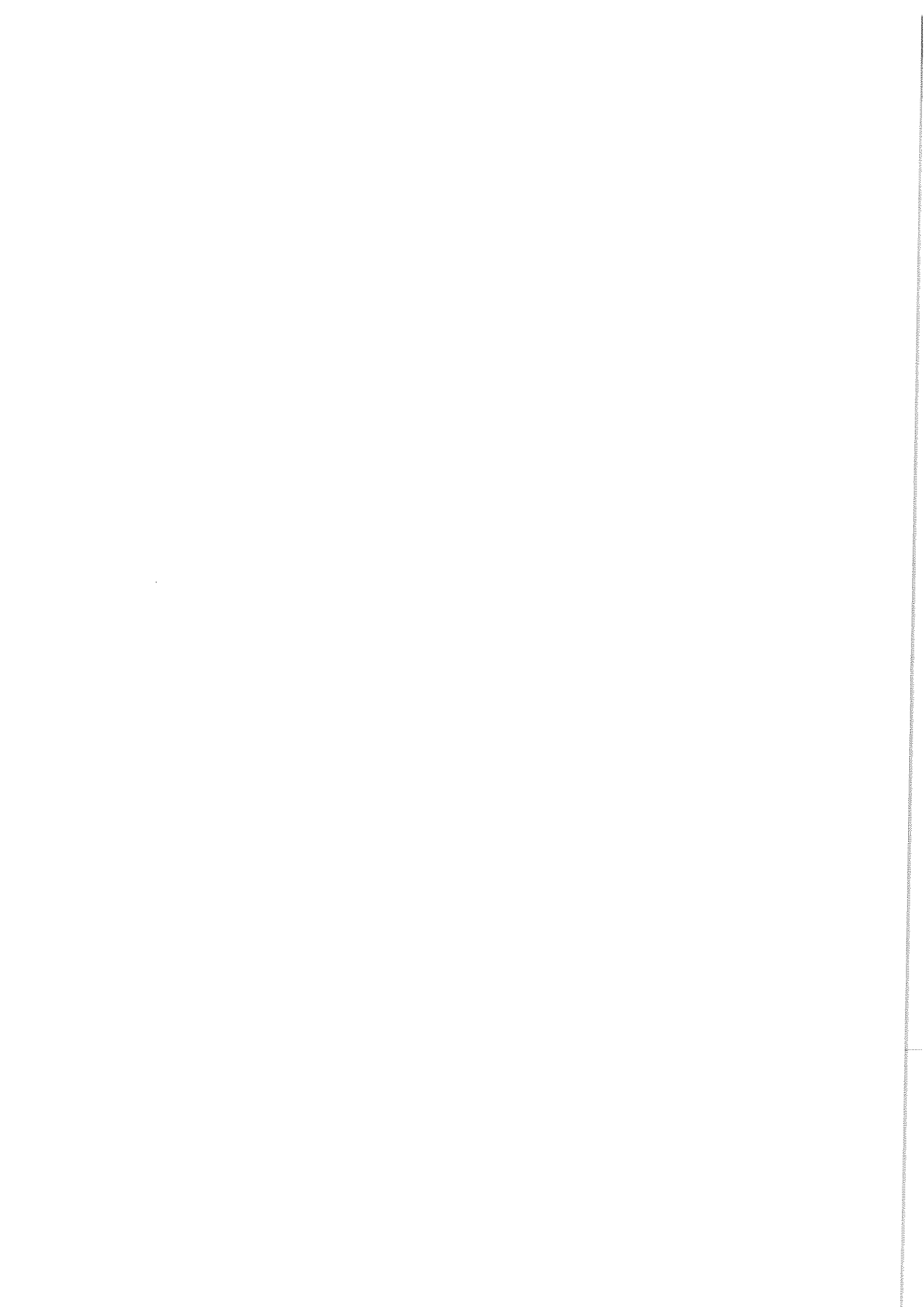
Test date: 22.09.2014

Storage: At temperatures up to 25 °C °C storage stability packed in original containers amounts to at least 1080 days.

Test method	Measurable properties	Unit	Result	Specification
Colour value DIN EN ISO 6271 (Hazen) (LFF)	Colour value (Hazen)	[.]	104	<=300
Dynamic Viscosity (Ubbelohde) DIN 53177 (23 °C)	dynamic viscosity	[mPa.s]	8987	3500 - 13500
Non-volatile content (nvc) DIN EN ISO 3251 (60 min; 125 °C; 2,0 g; 2 ml T)	non-volatile content	[%]	96,0	>=95,0

In case of questions contact: Silke Brecht, CoA-Request.Wiesbaden@Allnex.com

The information stated hereinabove reflects the results of the quality tests performed on the products. However, they do not represent a legal assurance of certain properties of the products or of their suitability for a specific purpose/application, nor do they release Buyer from the obligation to test the goods for its own processes and applications. We warrant that our products are in conformity with the contract in accordance with our General Terms and Conditions of Sale. This advice does not carry a signature.





SAFETY DATA SHEET

Safety Data Sheet according to regulation (EC) No 1907/2006 & 1272/2008 and amendments

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY/UNDERTAKING

Product Identifier: ALNOVOL® UF 410
Product Description: Carbamide acid ester resin

RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Intended/Recommended Use: Rubber additive

DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Company: Allnex Belgium SA/NV, Square Marie Curie 11, 1070 Brussels, BE.
For Product and all Non-Emergency Information call your local Allnex contact point or contact us at <http://www.allnex.com/contact>

Local Contact Information: Allnex Belgium SA/NV, Anderlechtstraat, 33, 1620 Drogenbos, BE
Telephone no.: +32 (0) 2-3345111

EMERGENCY TELEPHONE NUMBER (24 hours/day) - For emergency only involving spill, leak, fire, exposure or accident call:

Asia Pacific:

Australia: +61 2801 44558 (Carechem 24)
China (PRC): +86(0)532-8388-9090 (NRCC)
Japan: +81 345 789 341 (Carechem 24)
New Zealand: +64 9929 1483 (Carechem 24)
All Others: +65 3158 1074 (Carechem 24)

Europe/Africa/Middle East (Carechem 24):

Europe, Middle East, Africa, Israel: +44 (0) 1235 239 670
Middle East, Africa (Arabic speaking countries): +44 (0) 1235 239 671

Latin America (Carechem 24):

Brazil: +55 113 711 9144
Mexico and all others: +52-555-004-8763

Canada and USA (Carechem 24 - Allnex29003-NCEC): +1-866-928-0789 (toll free) or +1-215-207-0061

2. HAZARDS IDENTIFICATION

CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

Classification according to Regulation (EC) No 1272/2008 and amendments

This product does not meet the classification requirements of the current European legislation on classification and labelling.

Classification according to EU Directives 67/548/EEC or 1999/45/EC
Not hazardous

LABEL ELEMENTS

Hazard Statements

EUH208 - Contains butyl carbamate. May produce an allergic reaction.

Precautionary Statements

Precautionary statements on the label will be reduced as indicated in Regulation (EC) No 1272/2008, Article 28.

Not applicable

OTHER HAZARDS

Not applicable

RESULTS OF PBT AND vPvB ASSESSMENT

Not determined

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance, Mixture or Article? Substance

No Hazardous Ingredients

See Section 16 for full text of R and H phrases.

4. FIRST AID MEASURES

DESCRIPTION OF FIRST AID MEASURES

Eye Contact:

Rinse immediately with plenty of water for at least 15 minutes.

Skin Contact:

Wash immediately with plenty of water and soap.

Ingestion:

If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

Inhalation:

Remove to fresh air. If breathing is difficult, give oxygen. Obtain medical advice if there are persistent symptoms.

MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

None known

INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDS

Not applicable

5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA**Suitable Extinguishing Media:**

Use water spray or fog, carbon dioxide or dry chemical.

Extinguishing Media to Avoid:

full water jet.

SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Keep containers cool by spraying with water if exposed to fire.

ADVICE FOR FIREFIGHTERS**Protective Equipment:**

Firefighters, and others exposed, wear self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures:**

Where exposure level is not known, wear approved, positive pressure, self-contained respirator. Where exposure level is known, wear approved respirator suitable for level of exposure. In addition to the protective clothing/equipment in Section 8 (Exposure Controls/Personal Protection), wear impermeable boots.

Environmental Precautions:

None known

Methods and material for containment and cleaning up:

Cover spills with some inert absorbent material; sweep up and place in a waste disposal container. Flush spill area with water.

References to other sections:

See Sections 8 and 13 for additional information.

7. HANDLING AND STORAGE**PRECAUTIONS FOR SAFE HANDLING**

Precautionary Measures: Avoid contact with eyes, skin and clothing. Use with adequate ventilation. Keep container closed. Wash thoroughly after handling.

Special Handling Statements: Provide good ventilation of working area (local exhaust ventilation if necessary). During processing and handling of the product, comply with the indicative occupational exposure limit values.

Conditions for safe storage, including any incompatibilities:

Store in a cool, dry, well ventilated place and keep container tightly closed. After prolonged storage (greater than 6 months) products tends to settle and may require agitation to redisperse.

Storage Temperature: Room temperature

Reason: Quality.

Storage Class (TRGS 510): 10

Specific end use(s):

Refer to Section 1 or Exposure Scenario if applicable.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

CONTROL PARAMETERS

No OEL values have been established.

EXPOSURE CONTROLS

Engineering Measures:

Engineering controls are not usually necessary if good hygiene practices are followed.

Respiratory Protection:

Where exposures are below the established exposure limit, no respiratory protection is required.

Where exposures exceed the established exposure limit, use respiratory protection recommended for the material and level of exposure.

Eye protection:

Wear eye/face protection such as chemical splash proof goggles or face shield.

Skin Protection:

Avoid skin contact.

Wear impermeable gloves and suitable protective clothing.

Since this product is absorbed through the skin, care must be taken to prevent skin contact and contamination of clothing.

Hand protection:

Nitrile or fluorinated rubber gloves. Consider the porosity and elasticity data of the glove manufacturer and the specific conditions in the work place. Replace gloves immediately when torn or any change in appearance (dimension, colour, flexibility etc) is noticed.

Additional Advice:

Before eating, drinking, or smoking, wash face and hands thoroughly with soap and water. It is recommended that a shower be taken after completion of workshift especially if significant contact has occurred. Work clothing should then be laundered prior to reuse. Street clothing should be stored separately from work clothing and protective equipment. Work clothing and shoes should not be taken home.

9. PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Colour:	colorless to greenish yellow
Appearance:	liquid
Odor:	characteristic
Odor Threshold:	See Section 8 for exposure limits.
pH:	Not available
Melting Point:	Not available
Boiling Point:	Not applicable
Flash point:	> 150 °C DIN EN ISO 2719

Evaporation Rate:	Not available
Flammable Limits (% By Vol):	Not available
Vapor Pressure:	Not available
Vapour density:	Not available
Specific Gravity/Density:	~ 1.1 g/cm ³ DIN EN ISO 2811-2 @ 20 °C
Solubility In Water:	immiscible
Partition coefficient (n-octanol/water):	Not available
Autoignition temperature:	Not available
Decomposition Temperature:	> 140 °C DTA (Heating rate 3 K/min)
Viscosity (Kinematic):	Not available
Viscosity (Dynamic):	3500 - 13500 mPa.s @ 23 °C DIN EN ISO 3219

OTHER INFORMATION

Fat Solubility (Solvent-Oil):	Not available
Percent Volatile (% by wt.):	< 5
Solids Content:	> 95 %
Saturation In Air (% By Vol.):	Not available
Acid Number (mg KOH/g):	Not applicable
Hydroxyl Value (mg KOH/g):	Not applicable
Volatile Organic Content (1999/13/EC):	~ 0.5 %

10. STABILITY AND REACTIVITY

Reactivity:	No information available
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CHEMICAL STABILITY

Stability:	Stable
Conditions To Avoid:	None known

POSSIBILITY OF HAZARDOUS REACTIONS

Polymerization:	Will not occur
Conditions To Avoid:	None known
Incompatible materials:	None known
Hazardous Decomposition Products:	Carbon dioxide Carbon monoxide (CO)

11. TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Likely Routes of Exposure: Skin, Eyes, Oral.

Acute toxicity - oral: Not classified - Based on available data and/or professional judgment, the classification criteria are not met.

Acute toxicity - dermal: Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

Acute toxicity - inhalation: Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

Skin corrosion / irritation: Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

Serious eye damage / eye irritation: Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

Respiratory sensitization: Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

Skin sensitization: Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

Carcinogenicity: Not Classified. - Based on available data and/or professional judgment, the classification criteria are not met.

Germ cell mutagenicity: Not Classified. - Based on available data and/or professional judgment, the classification criteria are not met.

Reproductive toxicity: Not Classified. - Based on available data and/or professional judgment, the classification criteria are not met.

Specific target organ toxicity (STOT) - single exposure: Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

Specific target organ toxicity (STOT) - repeated exposure: Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

Aspiration hazard: Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

PRODUCT TOXICITY INFORMATION

ACUTE TOXICITY DATA

oral	rat	Acute LD50	> 2000 mg/kg
dermal	rabbit	Acute LD50	> 2000 mg/kg
inhalation	rat	Acute LC50 4 hr	> 5 mg/l (Dust/Mist)

LOCAL EFFECTS ON SKIN AND EYE

Acute Irritation	dermal	Not irritating
Acute Irritation	eye	Not irritating

ALLERGIC SENSITIZATION

Sensitization	Skin	No data
Sensitization	respiratory	No data

GENOTOXICITY

Assays for Gene Mutations

Ames Salmonella Assay	No data
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OTHER INFORMATION

The product toxicity information above has been estimated.

HAZARDOUS INGREDIENT TOXICITY DATA

No Hazardous Ingredients

12. ECOLOGICAL INFORMATION

TOXICITY, PERSISTENCE AND DEGRADABILITY, BIOACCUMULATIVE POTENTIAL, MOBILITY IN SOIL, OTHER ADVERSE EFFECTS

This material is not classified as dangerous for the environment.
The ecological assessment for this material is based on an evaluation of its components.

RESULTS OF PBT AND vPvB ASSESSMENT

Not determined

HAZARDOUS INGREDIENT TOXICITY DATA

No Hazardous Ingredients

13. DISPOSAL CONSIDERATIONS**Waste Treatment Methods**

Allnex encourages the recycle, recovery and reuse of materials, where permitted. If disposal is necessary, Allnex recommends that organic materials, especially when classified as hazardous waste, be disposed of by thermal treatment or incineration at approved facilities. All local and national regulations should be followed.

14. TRANSPORT INFORMATION

This section provides basic shipping classification information. Refer to appropriate transportation regulations for specific requirements.

ADR/RID/ADN

Dangerous Goods? Not applicable/Not regulated

IMO

Dangerous Goods? Not applicable/Not regulated

ICAO / IATA

Dangerous Goods? Not applicable/Not regulated

15. REGULATORY INFORMATION**SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS / LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE**

Ozone Depleting Substances (Regulation (EC) No 1005/2009): Not applicable

Persistent Organic Pollutants (Regulation (EC) No 850/2004): Not applicable

Prior Informed Consent (Regulation (EC) No 689/2008): Not applicable

Substances subject to Authorization (Annex XIV of Regulation (EC) No 1907/2006): Not applicable

Substances subject to Restrictions for certain applications(Annex XVII of Regulation(EC)No 1907/2006):
Not applicable

Water Endangering Class (Germany): 1 according to VwVwS, 17.05.1999

Inventory Information

European Economic Area (including EU): When purchased from an Allnex legal entity based in the EEA (EU or Norway), this product is compliant with the registration of the REACH Regulation (EC) No. 1907/2006 as all its components are either excluded, exempt, pre-registered and/or registered.

United States (USA):

All components of this product are included on the TSCA Chemical Inventory or are not required to be listed on the TSCA Chemical Inventory.

Canada:

All components of this product are included on the Domestic Substances List (DSL) or are not required to be listed on the DSL.

Australia: All components of this product are included in the Australian Inventory of Chemical Substances (AICS) or are not required to be listed on AICS.

China: All components of this product are included on the Chinese inventory or are not required to be listed on the Chinese inventory.

Japan: All components of this product are included on the Japanese (ENCS and ISHL) inventories or are not required to be listed on the Japanese inventories.

Korea: All components of this product are included on the Korean (ECL) inventory or are not required to be listed on the Korean inventory.

Philippines: All components of this product are included on the Philippine (PICCS) inventory or are not required to be listed on the Philippine inventory.

Switzerland: All components of this product are exempt from the new substance notification requirements for Switzerland (SR 813.11 art. 16-17).

CHEMICAL SAFETY ASSESSMENT

No Chemical Safety Assessment has been carried out.

16. OTHER INFORMATION

Reasons for Issue: Revised Section 15

Date Prepared: 08-Aug-2014

Date of last significant revision: 08-Aug-2014

Classification methods include one or more of the following: use of specific product data, read-across data, modeling, professional judgment or a component based evaluation.

Prepared By: Product Stewardship & Regulatory Affairs Department, <http://www.allnex.com/contact>

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SAFETY DATA SHEET

Safety Data Sheet according to regulation (EC) No 1907/2006 & 1272/2008 and amendments

Page 1 of 9
SDS: 0055246
Date Prepared: 21-Dec-2015

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY/UNDERTAKING

Product Identifier: **ALNOVOL® UF 410**
Product Description: Carbamide acid ester resin

RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST
Intended/Recommended Use: Rubber additive

DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Company: Alinex Belgium SA/NV, Square Marie Curie 11, 1070 Brussels, BE.
For Product and all Non-Emergency Information call your local Alinex contact point or contact us at <http://www.alinex.com/contact>

Local Contact Information: Alinex Belgium SA/NV, Anderlechtstraat, 33, 1620 Drogenbos, BE
Telephone no.: +32 (0) 2-3345111

EMERGENCY TELEPHONE NUMBER (24 hours/day) - For emergency only involving spill, leak, fire, exposure or accident call:

Asia Pacific:
Australia: +61 2801 44558 (Carechem 24)
China (PRC): +86(0)532-8388-9090 (NRCC)
Japan: +81 345 789 341 (Carechem 24)
New Zealand: +64 9929 1483 (Carechem 24)
All Others: +65 3158 1074 (Carechem 24)
Europe/Africa/Middle East (Carechem 24):
Europe, Middle East, Africa, Israel: +44 (0) 1235 239 670
Middle East, Africa (Arabic speaking countries): +44 (0) 1235 239 671
Latin America:
Brazil: +55-800-707-7022 (toll free) or +55-11-98149-0850 (Suatrans 24)
Mexico and all others: +52-555-004-8763 (Carechem 24)
Canada and USA (Carechem 24 - Alinex29003-NCEC): +1-866-928-0789 (toll free) or +1-215-207-0061

2. HAZARDS IDENTIFICATION

CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

Classification according to Regulation (EC) No 1272/2008 and amendments
Not Classified

ALNOVOL® UF 410

SDS: 0055246

Print Date: 21-Dec-2015

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LABEL ELEMENTS

Hazard Statements
EUH208 - Contains butyl carbamate. May produce an allergic reaction.
EUH208 - Contains formaldehyde. May produce an allergic reaction.

Precautionary Statements
Precautionary statements on the label will be reduced as indicated in Regulation (EC) No 1272/2008, Article 28.

Not applicable

OTHER HAZARDS
Not applicable

RESULTS OF PBT AND vPvB ASSESSMENT
Not determined

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance, Mixture or Article? Substance

No Hazardous Ingredients

See Section 16 for full text of H phrases.

4. FIRST AID MEASURES

DESCRIPTION OF FIRST AID MEASURES

Eye Contact:
Rinse immediately with plenty of water for at least 15 minutes.

Skin Contact:
Wash immediately with plenty of water and soap.

Ingestion:
If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

Inhalation:
Remove to fresh air. If breathing is difficult, give oxygen. Obtain medical advice if there are persistent symptoms.

MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

None known

INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDS

Not applicable

5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA

Suitable Extinguishing Media:

Use water spray or fog, carbon dioxide or dry chemical.

Unsuitable Extinguishing Media:

full water jet.

SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Keep containers cool by spraying with water if exposed to fire.

ADVICE FOR FIREFIGHTERS

Protective Equipment:

Firefighters, and others exposed, wear self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Where exposure level is not known, wear approved, positive pressure, self-contained respirator. Where exposure level is known, wear approved respirator suitable for level of exposure. In addition to the protective clothing/equipment in Section 8 (Exposure Controls/Personal Protection), wear impermeable boots.

Environmental Precautions:

None known

Methods and material for containment and cleaning up:

Cover spills with some inert absorbent material; sweep up and place in a waste disposal container. Flush spill area with water.

References to other sections:

See Sections 8 and 13 for additional information.

7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

Precautionary Measures: Avoid contact with eyes, skin and clothing. Use with adequate ventilation. Keep container closed. Wash thoroughly after handling.

Special Handling Statements: Provide good ventilation of working area (local exhaust ventilation if necessary). During processing and handling of the product, comply with the indicative occupational exposure limit values.

Conditions for safe storage, including any incompatibilities:

Store in a cool, dry, well ventilated place and keep container tightly closed. After prolonged storage (greater than 6 months) products tends to settle and may require agitation to redisperse.

Storage Temperature: Room temperature

Reason: Quality.

Storage Class (TRGS 510): 10

Specific end use(s):

Refer to Section 1 or Exposure Scenario if applicable.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

CONTROL PARAMETERS

No OEL values have been established.

EXPOSURE CONTROLS

Engineering Measures:

Engineering controls are not usually necessary if good hygiene practices are followed.

Respiratory Protection:

Where exposures are below the established exposure limit, no respiratory protection is required. Where exposures exceed the established exposure limit, use respiratory protection recommended for the material and level of exposure.

Eye protection:

Wear eye/face protection such as chemical splash proof goggles or face shield.

Skin Protection:

Avoid skin contact.
Wear impermeable gloves and suitable protective clothing.
Since this product is absorbed through the skin, care must be taken to prevent skin contact and contamination of clothing.

Hand protection:

Nitrile or fluorinated rubber gloves. Consider the porosity and elasticity data of the glove manufacturer and the specific conditions in the work place. Replace gloves immediately when torn or any change in appearance (dimension, colour, flexibility etc) is noticed.

Additional Advice:

Before eating, drinking, or smoking, wash face and hands thoroughly with soap and water. It is recommended that a shower be taken after completion of workshift especially if significant contact has occurred. Work clothing should then be laundered prior to reuse. Street clothing should be stored separately from work clothing and protective equipment. Work clothing and shoes should not be taken home.

9. PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Colour:	colorless to greenish yellow
Appearance:	liquid
Odor:	characteristic
Odor Threshold:	See Section 8 for exposure limits.
pH:	Not available
Melting Point:	Not available
Boiling Point:	Not applicable
Flash point:	> 150 °C DIN EN ISO 2719
Evaporation Rate:	Not available
Flammable Limits (% By Vol):	Not available

Vapor Pressure: Not available
Vapour density: Not available
Specific Gravity/Density: ~ 1.1 g/cm³ DIN EN ISO 2811-2 @ 20 °C
Solubility in Water: immiscible
Partition coefficient (n-octanol/water): Not available
Autoignition temperature: Not available
Decomposition Temperature: > 140 °C DTA (Heating rate 3 K/min)
Viscosity (Kinematic): Not available
Viscosity (Dynamic): 3500 - 13500 mPa.s @ 23 °C DIN EN ISO 3219

OTHER INFORMATION

Fat Solubility (Solvent-Oil): Not available
Percent Volatile (% by wt.): < 5 %
Solids Content: > 95 %
Saturation in Air (% By Vol.): Not available
Acid Number (mg KOH/g): Not applicable
Hydroxyl Value (mg KOH/g): Not applicable
Volatile Organic Content (1999/13/EC): ~ 0.5 %

10. STABILITY AND REACTIVITY

Reactivity: No information available

CHEMICAL STABILITY

Stability: Stable

Conditions To Avoid: None known

POSSIBILITY OF HAZARDOUS REACTIONS

Polymerization: Will not occur

Conditions To Avoid: None known

Incompatible materials: None known

Hazardous Decomposition Products: Carbon dioxide
Carbon monoxide (CO)

11. TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Likely Routes of Exposure: Skin, Eyes, Oral.

Acute toxicity - oral: Not classified - Based on available data and/or professional judgment, the classification criteria are not met.
Acute toxicity - dermal: Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.
Acute toxicity - inhalation: Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.
Skin corrosion / irritation: Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

Serious eye damage / eye irritation: Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

Respiratory sensitization: Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.
Skin sensitization: Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

Carcinogenicity: Not Classified. - Based on available data and/or professional judgment, the classification criteria are not met.
Germ cell mutagenicity: Not Classified. - Based on available data and/or professional judgment, the classification criteria are not met.
Reproductive toxicity: Not Classified. - Based on available data and/or professional judgment, the classification criteria are not met.

Specific target organ toxicity (STOT) - single exposure: Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.
Specific target organ toxicity (STOT) - repeated exposure: Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.
Aspiration hazard: Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

PRODUCT TOXICITY INFORMATION

ACUTE TOXICITY DATA

oral	rat	Acute LD50	> 2000 mg/kg
dermal	rabbit	Acute LD50	> 2000 mg/kg
inhalation	rat	Acute LC50 4 hr	> 5 mg/l (Dust/Mist)

LOCAL EFFECTS ON SKIN AND EYE

Acute irritation	dermal	Not irritating
Acute irritation	eye	Not irritating

ALLERGIC SENSITIZATION

Sensitization	Skin	Not sensitizing
Sensitization	respiratory	No data

GENOTOXICITY

Assays for Gene Mutations
Ames Salmonella Assay No data

OTHER INFORMATION

The product toxicity information above has been estimated.

HAZARDOUS INGREDIENT TOXICITY DATA

No Hazardous Ingredients

12. ECOLOGICAL INFORMATION

TOXICITY, PERSISTENCE AND DEGRADABILITY, BIOACCUMULATIVE POTENTIAL, MOBILITY IN SOIL, OTHER ADVERSE EFFECTS

This material is not classified as dangerous for the environment.
The ecological assessment for this material is based on an evaluation of its components.

RESULTS OF PBT AND vPvB ASSESSMENT

Not determined

HAZARDOUS INGREDIENT TOXICITY DATA

No Hazardous Ingredients

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

The company encourages the recycle and reuse of products and packaging, where possible and permitted.

Product disposal

When recycle or reuse is not possible, the company recommends that our products, especially when classified as hazardous, be disposed of by thermal treatment or incineration at approved facilities. All local and national regulations should be followed. For disposal within the European Community, waste codes according to Directive 2008/98/EC should be assigned by the user based on the application for which the product was used.

Packaging disposal

Handle contaminated packages in the same way as the product itself. Disposal of emptied and cleaned packaging must be made in accordance with applicable local and national regulations.

Disposal-relevant information

Do not release directly or indirectly to surface water, ground water, soil or public sewage system.

14. TRANSPORT INFORMATION

This section provides basic shipping classification information. Refer to appropriate transportation regulations for specific requirements.

ADR/RID/ADN

Dangerous Goods? Not applicable/Not regulated

IMO

Dangerous Goods? Not applicable/Not regulated

ICAO/IATA

Dangerous Goods? Not applicable/Not regulated

15. REGULATORY INFORMATION

SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS / LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

Ozone Depleting Substances (Regulation (EC) No 1005/2009): Not applicable
Persistent Organic Pollutants (Regulation (EC) No 850/2004): Not applicable
Prior informed Consent (Regulation (EC) No 689/2008): Not applicable
Substances subject to Authorization (Annex XIV of Regulation (EC) No 1907/2006): Not applicable
Substances subject to Restrictions for certain applications (Annex XVII of Regulation (EC) No 1907/2006): Not applicable

Water Endangering Class (Germany): 1 according to VwVwS: 17.05.1999

Inventory Information

European Economic Area (including EU): When purchased from an Alnex legal entity based in the EEA (EU or Norway), this product is compliant with the registration of the REACH Regulation (EC) No. 1907/2006 as all its components are either excluded, exempt, pre-registered and/or registered.

United States (USA): All components of this product are included on the TSCA Chemical Inventory or are not required to be listed on the TSCA Chemical Inventory.

Canada: All components of this product are included on the Domestic Substances List (DSL) or are not required to be listed on the DSL.

Australia: All components of this product are included in the Australian Inventory of Chemical Substances (AICS) or are not required to be listed on AICS.

China: All components of this product are included on the Chinese Inventory or are not required to be listed on the Chinese inventory.

Japan: All components of this product are included on the Japanese (ENCS and ISHL) inventories or are not required to be listed on the Japanese inventories.

Korea: All components of this product are included on the Korean (ECL) inventory or are not required to be listed on the Korean inventory.

Philippines: All components of this product are included on the Philippine (PICCS) inventory or are not required to be listed on the Philippine inventory.

Taiwan: All components of this product are included in the Taiwan chemical substance inventory or are not required to be listed on the Taiwan chemical substance inventory (TCSI).

Switzerland: All components of this product are exempt from the new substance notification requirements for Switzerland (SR 813.11 art. 24-26).

CHEMICAL SAFETY ASSESSMENT

No Chemical Safety Assessment has been carried out.

16. OTHER INFORMATION

Reasons for Issue:

Revised Section 2

Date Prepared:

21-Dec-2015

Date of last significant revision: 21-Dec-2015

Classification methods include one or more of the following: use of specific product data, read-across data, modelling, professional judgment or a component based evaluation.

Prepared By: Product Stewardship & Regulatory Affairs Department, <http://www.allnex.com/contact>

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