

**SAFETY DATA SHEET**  
According to Regulation (EC) No. 1907/2006

**CLEAROPAG 165 2C B1 FOAM**

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

**1.1 Product identifier**

Product name: Clearopag 165 2C B1 Foam

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

**1.2.1 Relevant identified uses:**

Filling, insulating

**1.2.2 Uses advised against:**

No uses advised against are known

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

Clearopag GmbH  
Südstraße 6  
D-33829 Borgholzhausen  
Phone: +49 (0)5425-5035-36  
Fax: +49 (0)5425-7133

Information providing department: Sales, Hr. Störmer  
E-Mail: info@clearopag.de

**1.4 Emergency telephone number**

Poison Emergency Call Berlin: +49 (0)30 19240

**SECTION 2: Hazards identification**

**2.1 Classification of the substance or mixture**

Regulation (EC) No. 1272/2008

Aerosol 1	H222: Extremely flammable aerosol H229: Pressurized container: May burst if heated
Acute Tox 4	H332: Harmful if inhaled
Skin Irrit. 2	H315: Causes skin irritation
Eye Irrit. 2	H319: Causes serious eye irritation
Resp. Sens. 1	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
Skin Sens. 1	H317: May cause an allergic skin reaction
Carc. 2	H351: Suspected of causing cancer
STOT SE 3	H335: May cause respiratory irritation
STOT RE 2	H373: May cause damage to organs through prolonged or repeated exposure if inhaled

**2.2 Label elements**

Regulation (EC) No. 1272/2008

# SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006

## CLEAROPAG 165 2C B1 FOAM

Hazardous components for labelling: Diphenylmethanediisocyanate, isomers and homologues



Hazard pictograms

Signal word DANGER

Hazard statements

H222	Extremely flammable aerosol
H229	Pressurized container: May burst if heated
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H332	Harmful if inhaled
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335	May cause respiratory irritation
H351	Suspected of causing cancer
H373	May cause damage to organs through prolonged or repeated exposure

Precautionary statements

P101	If medical advice is needed, have product container or label at hand
P102	Keep out of reach of children
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P211	Do not spray on an open flame or other ignition source
P251	Do not pierce or burn, even after use
P260	Do not breathe dust/fume/gas/mist/vapours/spray
P271	Use only outdoors or in a well-ventilated area
P280	Wear protective gloves/eye protection
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor
P331	Do NOT induce vomiting
P302+P352	IF ON SKIN: Wash with plenty of soap and water
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P405	Store locked up
P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F
P501	Dispose of contents/container in accordance with local/regional/national/international regulation

Special labelling of certain mixtures:

EUH204	Contains Isocyanates. May produce an allergic reaction.
--------	---

Supplemental information

Persons already sensitised to diisocyanates may develop allergic reactions when using this product. Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product. This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter (i. e. type A1 according to standard EN 14387) is used.

### 2.3 Other hazards

# SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006

## CLEAROPAG 165 2C B1 FOAM

In case of insufficient ventilation and/or through use, explosive/highly flammable mixtures may develop.  
During transportation by car the cans should stand upright in the cargo space.  
Do not activate container at temperatures > 25 °C. Cool down in a water bath!

### SECTION 3: Composition/information on ingredients

#### 3.2 Mixtures

##### Hazardous components

CAS No. EG No. REACH No.	Name GHS Classification	Quantity
9016-87-9	Diphenylmethanediisocyanate, isomers and homologues Carc. 2, H351; Acute Tox. 4, H332; STOT RE 2, H373; Eye Irrit. 2, H319; STOT SE 3, H335; Skin Irrit. 2, H315; Resp. Sens. 1, H334; Skin Sens. 1, H317	25 – 50 %
13674-84-5	Tris(2-chloroisopropyl)-phosphate	10 – 20 %
237-158-7	Acute Tox. 4; H302	
01-2119486772-26		
75-28-5	Isobutane	2.5 – 10 %
200-857-2	Flam. Gas 1, H220; Press. Gas C, H280	
01-2119485395-27		
107-21-1	1,2-Ethanediol	5 – 10 %
203-473-3	Acute Tox. 4, H302; STOT RE 2, H373	
01-2119456816-28		
115-10-6	Dimethyl ether	2.5 – 10 %
204-065-8	Flam. Gas 1, H220; Press. Gas C, H280	
01-2119472128-37		
74-98-6	Propane	2.5 – 10 %
200-827-9	Flam. Gas 1, H220; Press. Gas C, H280	
01-2119486944-21		
69011-36-5	Isotridecanol, 3-5 EO Acute Tox. 4, H302; Eye Dam. 1, H318	1 – 2.5 %
36483-57-5	Tribromoneopentyl alcohol	1 – 2.5 %
253-057-0	Eye Irrit. 2, H319	

Full text of H and EUH statements: see section 16

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

##### General information:

Immediately remove any clothing soiled by the product. Move victim out of danger zone. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

# SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006

## CLEAROPAG 165 2C B1 FOAM

### After inhalation:

Provide fresh air. In case of irregular breathing or respiratory arrest provide artificial respiration.

### After contact with skin:

After contact with skin, wash immediately with plenty of water and soap. In case of skin irritation, seek medical treatment. Remove or scrape fresh foam carefully.

### After contact with eyes:

In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

### After ingestion:

Rinse mouth with water and drink plenty of water. Do NOT induce vomiting. Call a physician immediately.

## 4.2 Most important symptoms and effects, both acute and delayed

Dermatitis, skin discoloration and dry skin. Irritation of nose and throat. Effect on the central nervous system. Cough, shortness of breath and asthma, headache.

Allergic reactions. May cause sensitization by inhalation and skin contact.

Danger of sticking eyes and skin due to curing foam.

## 4.3 Indication of any immediate medical attention and special treatment needed

First Aid, decontamination, treatment of symptoms.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media:

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

#### Unsuitable extinguishing media:

High power water jet.

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

In case of fire may be liberated: carbon monoxide, carbon dioxide, nitrogen oxides (NO<sub>x</sub>), hydrogen chloride (HCl), hydrogen cyanide (HCN). Danger of bursting by heating. Vapours may form explosive mixtures with air.

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Wear a self-contained breathing apparatus and chemical protective clothing.

#### Additional information:

Use water spray jet to protect personnel and to cool endangered containers. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Provide adequate ventilation. Remove all sources of ignition. Avoid contact with skin, eyes and clothes. Wear personal protective equipment.

**SAFETY DATA SHEET**  
According to Regulation (EC) No. 1907/2006

**CLEAROPAG 165 2C B1 FOAM**

## 6.2 Environmental precautions

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

## 6.3 Methods and material for containment and cleaning up

Provide adequate ventilation. Allow stiffening. Take up mechanically. Clean contaminated surfaces with acetone.

## 6.4 Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

**Advice on safe handling:**

Provide adequate ventilation as well as local exhaustion at critical locations. Do not use in enclosed rooms.

**Advice on protection against fire and explosion:**

Pressurized container: May burst if heated. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use.

Vapours can form explosive mixtures with air. Take precautionary measures against static discharge.

**Further information on handling:**

Do not activate container at temperatures > 25 °C. Cool down in a water bath! Danger of bursting container.

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

**Requirements for storage rooms and vessels:**

Keep only in original container. Keep in a cool, well-ventilated place.

**Advice on storage compatibility:**

Do not store together with: strong acids, strong bases, oxidising agents.

**Further information on storage conditions:**

Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

### 7.3 Specific end use(s)

Not applicable.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

**Exposure limits (EH40):**

CAS No.	Name	ppm	mg/m <sup>3</sup>	Category	Origin
9016-87-9	Diphenyl methane diisocyanate, isomers and homologues		0.05	TWA (8 h)	AGW

# SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006

## CLEAROPAG 165 2C B1 FOAM

115-10-6	Dimethyl ether	400 500	766 958	TWA (8 h) STEL (15 min)	WEL WEL
107-21-1	1,2-Ethanediol	20 40	52 104	TWA (8 h) STEL (15 min)	WEL WEL

### DNEL-/DMEL values:

DNEL type	Exposure route	Effect	Value
<b>Tris(2-Chloroisopropyl) phosphate</b>			
Worker DNEL, acute	Dermal	Systemic	8 mg/kg Bw/day
Worker DNEL, long-term	Dermal	Systemic	2,08 mg/kg Bw/day
Worker DNEL, acute	Inhalation	Systemic	22,4 mg/m <sup>3</sup>
Worker DNEL, long-term	Inhalation	Systemic	5,82 mg/m <sup>3</sup>
Consumer DNEL, long-term	Oral	Systemic	0,52 mg/kg Bw/day
Consumer DNEL, acute	Dermal	Systemic	4 mg/kg Bw/day
Consumer DNEL, long-term	Dermal	Systemic	1,04 mg/kg Bw/day
Consumer DNEL, acute	Inhalation	Systemic	11,2 mg/m <sup>3</sup>
Consumer DNEL, long-term	Inhalation	Systemic	1,46 mg/m <sup>3</sup>
<b>Ethanediol</b>			
Worker DNEL, long-term	Dermal	Systemic	106 mg/kg Bw/day
Worker DNEL, long-term	Inhalation	Local	35 mg/m <sup>3</sup>
Consumer DNEL, long-term	Dermal	Systemic	53 mg/kg Bw/day
Consumer DNEL, long-term	Inhalation	Local	7 mg/m <sup>3</sup>
<b>Dimethyl ether</b>			
Worker DNEL, long-term	Inhalation	Systemic	1894 mg/m <sup>3</sup>
Consumer DNEL, long-term	Inhalation	Systemic	497 mg/m <sup>3</sup>

### PNEC values:

Environmental compartment	Value
<b>Tris(2-chloroisopropyl)-phosphate</b>	
Freshwater	0.64 mg/l
Marine water	0.064 mg/l
Micro-organisms in sewage treatment plants (STP)	7.84 mg/l
Freshwater sediment	13.4 mg/kg
Marine sediment	1.34 mg/kg
Soil	1.7 mg/kg
Secondary poisoning	11.6 mg/kg
<b>Dimethyl ether</b>	
Freshwater	0.155 mg/l
Marine water	0.016 mg/l
Micro-organisms in sewage treatment plants (STP)	160 mg/l
Freshwater sediment	0.681 mg/kg
Marine sediment	0.069 mg/kg
Soil	0.045 mg/kg
<b>Ethanediol</b>	

# SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006

## CLEAROPAG 165 2C B1 FOAM

Freshwater	10 mg/l
Marine water	1 mg/l
Freshwater sediment	20.9 mg/kg
Micro-organisms in sewage treatment plants (STP)	199.5 mg/l
Soil	1.53 mg/kg

### 8.2 Exposure controls

#### Appropriate engineering controls:

Personal protective equipment has to be chosen in accordance with workplace specific conditions, e. g. concentration of the product. Chemical resistance has to be clarified with the supplier of protective equipment.

#### Protective and hygiene measures:

Wash hands before breaks and after works. When using do not eat, drink, smoke, sniff. Remove contaminated, saturated clothing immediately.

**Eye/face protection:** Tightly sealed safety goggles (DIN EN 166).

**Hand protection:** Suitable material: Nitrile rubber

Thickness of the glove material  $\geq 0.5$  mm

Breakthrough time (maximum wearing time) > 480 min.

The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.

**Skin protection:** Protective work clothing

**Respiratory protection:** Respiratory protection necessary at: insufficient ventilation

Suitable respiratory protective equipment: gas mask with filter type AX.

**Environmental exposure controls:**

See section 7. No additional measures necessary.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical form:	Aerosol
Colour:	Colour depending on composition
Odour:	Characteristic
Odour threshold:	Not determined
pH value:	Not applicable
Melting point:	Not applicable
Boiling point:	Not applicable
Flash point:	Not applicable
Explosive properties:	Not explosive, but may form explosive vapour/air mixtures
Explosion limits:	1.7 – 53.0 vol%
Flammability:	Not applicable
Vapour pressure:	Not applicable
Relative density (20 °C):	0.957 g/cm <sup>3</sup>

**SAFETY DATA SHEET**  
According to Regulation (EC) No. 1907/2006

**CLEAROPAG 165 2C B1 FOAM**

Solubility:	Water: insoluble organic solvents: soluble
Partition coefficient:	Not determined
Dynamic viscosity:	Not determined
Kinematic viscosity:	Not determined
Relative vapour density:	Not determined
Evaporation rate:	Not applicable
Particle size:	Not determined
Decomposition temperature:	Not determined
Ignition temperature:	Not applicable
Oxidising properties:	No

## 9.2 Other information

Container pressure:	5 – 6 bar
---------------------	-----------

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No further relevant information available.

### 10.2 Chemical stability

The product is stable under storage at normal ambient temperatures.

### 10.3 Possibility of hazardous reactions

Risk of bursting at temperatures above 50 °C. Formation of explosive vapour/air mixtures.

### 10.4 Conditions to avoid

Keep away from heat/sparks/open flames/hot surfaces – no smoking. Do not expose to temperatures above 50 °C. Heating causes rise in pressure with risk of bursting.

### 10.5 Incompatible materials

(Strong) acids, (strong) bases, amines, alcohols.

### 10.6 Hazardous decomposition products

Hazardous decomposition products: carbon monoxide, carbon dioxide, nitrogen oxides (NO<sub>x</sub>), hydrogen chloride (HCl), hydrogen cyanide (HCN).

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Toxicokinetics, metabolism and distribution:

There are no data available on the mixture itself.



# SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006

## CLEAROPAG 165 2C B1 FOAM

### Acute toxicity:

Harmful if inhaled.

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination
Diphenylmethanediisocyanate, isomers and homologues						
Oral	LD50		> 5000 mg/kg		Rat	
Dermal	LD50		> 5000 mg/kg		Rabbit	
Inhalative	LC50		0.49 mg/l	4 h	Rat	
Tris(2-chloroisopropyl)-phosphate						
Oral	LD50		150 mg/kg bw		Rat	
1,2-Ethanediol						
Oral	LD50		5840 mg/kg		Rat	
Dermal	LD50		9530 mg/kg		Rabbit	
Dimethyl ether						
Inhalative (gas)	LC50		308 mg/l	4 h	Rat	

### Irritation and corrosivity:

Causes skin irritation.

Causes serious eye irritation.

### Sensitising effects:

May cause an allergic skin reaction.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

### STOT – single exposure:

May cause respiratory irritation.

### STOT – repeated exposure:

May cause damage to organs through prolonged or repeated exposure.

### Carcinogenic/mutagenic/toxic effects for reproduction:

Suspected of causing cancer.

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: Based on available data, the classification criteria are not met.

### Aspiration hazard:

Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

### 12.1 Toxicity

There are no data available on the mixture itself.

### 12.2 Persistence and degradability

There are no data available on the mixture itself.

### 12.3 Bioaccumulative potential

There are no data available on the mixture itself.

**SAFETY DATA SHEET**  
According to Regulation (EC) No. 1907/2006

**CLEAROPAG 165 2C B1 FOAM**

**12.4 Mobility in soil**

There are no data available on the mixture itself.

**12.5 Results of PBT and vPvB assessment**

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

**12.6 Other adverse effects**

None.

**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

**Advice on disposal:**

Dispose of waste according to applicable legislation.

**Waste disposal number of waste from residues/unused products:**

16 05 04 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; gases in pressure containers (including halons) containing dangerous substances – Classified as hazardous waste.

**Waste disposal number of waste of used product:**

17 06 04 CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES); insulation materials and asbestos-containing construction materials; insulation materials other than those mentioned in 17 06 01 and 17 06 03

**Waste disposal number of contaminated packaging:**


08 05 01 WASTES FROM MFSU OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; Wastes not otherwise specified in 08; waste isocyanates – Classified as hazardous waste.

**Contaminated packaging:**

In Germany: Recycling without additional costs by PU-Dosen-Recycling GmbH & Co. BetriebsKG (PDR), Am alten Sägewerk 3, D-95349 Thurnau. Order and pickup at phone +49 (0)800-7836736 or fax +49 (0)800-7836737.

**SECTION 14: Transport information**

**Land transport (ADR/RID)**

14.1 UN number:	UN 1950
14.2 UN proper shipping name:	AEROSOLS
14.3 Transport hazard classes:	2
14.4 Packing group:	-
Hazard label:	2.1 
Classification code:	5F
Limited quantities (LQ):	1 L
Excepted quantities:	E0

**SAFETY DATA SHEET**  
According to Regulation (EC) No. 1907/2006


**CLEAROPAG 165 2C B1 FOAM**

Transportation category:	2
Tunnel code:	D


**Other applicable information (land transport):**

Transport as „limited quantity“ according to chapter 3.4 ADR/RID.


**Inland waterways transport (AND)**

14.1 UN number:	UN 1950
14.2 UN proper shipping name:	AEROSOLS
14.3 Transport hazard classes:	2
14.4 Packing group:	-
Hazard label:	2.1 
Classification code:	5F
Limited quantities (LQ):	1 L
Excepted quantities:	E0

**Marine transport (IMDG)**

14.1 UN number:	UN 1950
14.2 UN proper shipping name:	AEROSOLS
14.3 Transport hazard classes:	2.1
14.4 Packing group:	-
Hazard label:	2.1 
Marine pollutant:	-
Limited quantities (LQ):	1000 mL
Excepted quantities:	E0
EmS:	F-D, S-U

**Air (ICAO)**

14.1 UN number:	UN 1950
14.2 UN proper shipping name:	AEROSOLS, flammable
14.3 Transport hazard classes:	2.1
14.4 Packing group:	-
Hazard label:	2.1 
Limited quantities (LQ) Passenger:	30 kg G

**14.5 Environmental hazards**



# SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006

## CLEAROPAG 165 2C B1 FOAM

H220	Extremely flammable gas
H222	Extremely flammable aerosol
H229	Pressurised container: May burst if heated
H280	Contains gas under pressure; may explode if heated
H302	Harmful if swallowed
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H332	Harmful if inhaled
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335	May cause respiratory irritation
H351	Suspected of causing cancer
H373	May cause damage to organs through prolonged or repeated exposure if inhaled
EUH204	Contains isocyanates. May produce an allergic reaction

### Further information:

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.