



Certificate

of Approval of Components and Systems

Holder of the Approval:

Clariant Produkte (Deutschland) GmbH
Werk Gendorf, Industrieparkstr. 1

DE-84508 Burgkirchen

Approval No.:	No. of pages:	Valid from:	Valid to:
G 4040093	4	15.03.2010	14.03.2014

Subject matter of the Approval:

Anti-freezer
Type "Antifrogen L Wassergemisch"

Use:

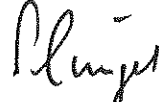
in stationary water extinguishing systems

Basis for approval:

Procedure Guidelines - VdS 2344en: 2005-12

VdS 2369 : 2000-03 (DRAFT)
Guidelines for sprinkler systems
Requirements and test methods for anti-freezer

Köln (Cologne), 15.03.2010


Schüngel

Managing Director


i.V. Hesels

Head of the VdS Certification Body

VdS Schadenverhütung GmbH
Zertifizierungsstelle
Amsterdamer Str. 174
D-50735 Köln

A company of the German
Insurance Association (GDV)
(German federation of insurance
companies)

Accredited by the "Deutsche
Akkreditierungsstelle Technik
(DATech)" as a certification body
for the areas of fire protection
and security

**Enclosure 1****Sheet 1**

To Certificate of Approval No. G 4040093

Date 15.03.2010

The approved component/system comprises the following parts:

Description of component	Type	Applicant's Registration No.	Approval number of component (only complete for system approval)
Anti-freezer In the concentrations: Antifrogen L water mixture 25 % Antifrogen L water mixture 32 % Antifrogen L water mixture 35 % Antifrogen L water mixture 38 %	Antifrogen L Wasserge- misch		

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The approved component/system is described as follows:

Type of document	Manufacturer's identification	Date	Number of Pages
Licence Identity No. PL-3/04 – Field of application Federal Republic of Germany	Ministry of the Interior of North Rhine-Westphalia Reference 74-52.10.3	25.08.2004	1
Product description/ Data sheet	Antifrogen L	02/2010	16
Product description/ Instruction	Antifrogen L	02/2010	16
Sicherheitsdatenblatt gemäß Verordnung (EG) Nr. 1907/2006	Antifrogen L Wassergemisch 25% Version: 4	04.03.2010	6
Safety Data Sheet in accordance with Regulation (EC) No. 1907/2006	Antifrogen L Water-Mixture 25% Version: 3	04.03.2010	6
Sicherheitsdatenblatt gemäß Verordnung (EG) Nr. 1907/2006	Antifrogen L Wassergemisch 32% Version: 5	04.03.2010	6
Safety Data Sheet in accordance with Regulation (EC) No. 1907/2006	Antifrogen L Water-Mixture 32% Version: 3	04.03.2010	6
Sicherheitsdatenblatt gemäß Verordnung (EG) Nr. 1907/2006	Antifrogen L Wassergemisch 35% Version: 4	04.03.2010	6
Safety Data Sheet in accordance with Regulation (EC) No. 1907/2006	Antifrogen L Water-Mixture 35% Version: 3	04.03.2010	6
Sicherheitsdatenblatt gemäß Verordnung (EG) Nr. 1907/2006	Antifrogen L Wassergemisch 38% Version: 4	04.03.2010	6
Safety Data Sheet in accordance with Regulation (EC) No. 1907/2006	Antifrogen L Water-Mixture 38% Version: 3	04.03.2010	6
WAL Test report no. 04057		27.10.2004	11
WAL Test report no. 06067		16.11.2006	8
WAL Test report no. 10030		19.03.2010	7

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Instructions for the application of the approval component/system (see enclosure 1):

The anti-freezer can be used in piping of sprinkler systems to be filled in sectors that are at risk to freeze behind the relevant wet alarm valve stations.

In each individual case it has to be proved by a hydraulic calculation - based on the characteristics of the anti-freezer at 0 °C - that pure water flows from the hydraulically most unfavourable sprinkler after 4 minutes at the latest.

It has to be guaranteed that no inadmissible pressures are built up in the part of the piping filled with anti-freezer by change in volume due to variations in temperature (e.g. by safety valve and automatic pressure holding pump).

A mass exchange with the ambience has to be permanently avoided when using anti-freezer - including mass exchange with that part of piping filled with pure water. Technical measures can be necessary for this purpose.

The anti-freezer may not be used in zinc coated piping or system components.

Once a year one sample has to be taken from each piping (i.e. from each sector) filled with anti-freezer and it has to be examined for compliance with the intended properties and frost resistance by Clairant GmbH. One copy of the test report has to be sent to VdS Schadenverhütung - Technical Test Center.

If more than 20 sprinklers are used in one sector of the system, a previous adjustment with VdS Schadenverhütung - Technical Test Center - is necessary.