1.4.28
Decontamination Agents

The right decontamination agent for every field of application.
Guaranteed Safety in Accordance with German Armed Forces Standards

Radioactive Decontamination: Removal of radioactive particles clinging to surfaces (fall-out)

Disinfection: Neutralization of biological (disease causing) warfare agents

Detoxification: Removal or destruction of chemical warfare agents

Material Decontamination

Radioactive Decontamination
The hot foam method guarantees safe radioactive decontamination. The hot foam is sprayed onto the surface at a temperature of 80°C. The complexing agent in the foam (RM 54) binds the radioactive nuclides (radioactive particles). The hot foam method guarantees the full radioactive decontamination of material.

Detoxification
The new decontamination emulsion TDE 202 works universally against all known chemical warfare agents and warfare agent mixtures with thickener.

Test conditions:
Contamination with following warfare agents and 180 min. reaction time:
- 13g/m² S-Lost(HD)
- 13 g/m² S-Lost, concentrated, i.e. with Parlon (THD)
- 10 g/m² VX nerve affecting warfare agent

Emulsion detoxification time: 30 min.
Optimum safety due to values guaranteed to be lower than the following limits:

<table>
<thead>
<tr>
<th>Warfare Agent</th>
<th>Skin Affecting Agent</th>
<th>Nerve Affecting Agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resistant Paints</td>
<td>0.05 g/m²</td>
<td>0.02 g/m²</td>
</tr>
<tr>
<td>Non Resistant Normal Paints</td>
<td>0.2 g/m²</td>
<td>0.2 g/m²</td>
</tr>
</tbody>
</table>

Disinfection
The rendering harmless occurs with help of Di 60 or RM 35. By adding RM 54, the liquid Di 60 solution obtains a longer treatment time on contaminated surfaces, for example, weapon systems.

The Patented Emulsion TDE 202
- tetrachloroethylene free
- can be used under the climatic requirements of all NATO countries
- favorable pH-value of 8.0
- reliable emulsion formation
- strongly improved decontamination effectiveness in comparison to conventional decontamination emulsions
- considerably easier storage of emulsion components
- improved environmental compatibility in comparison with other decontamination emulsions
- double stability of decontamination emulsion in comparison with conventional decontamination emulsions, i.e. to a minimum time of 48 hours
- universally usable in winter as well

Clothing and Equipment Decontamination

Radioactive Decontamination
An effective decontamination of equipment is possible with the liquid solution of RM 54.

Disinfection
The clothing is steamed out at a temperature of 140-210°C. The disease causing agents are destroyed through the application of RM 35.

Detoxification
Besides the reliable hot gas/hot steam treatment from Kärcher, an effective detoxification of clothing is possible with the RM 31 solution as well as a decontamination of equipment with the new Decontamination Emulsion TDE 202.

Decontamination of Persons

The decontamination of the wounded is performed with the Kärcher mediclean and a decontamination solution for the elimination of contaminants on the skin. The Kärcher pulsating shower treatment makes possible an effective and time saving decontamination of persons:

1st Step: Application of RM 21 solution (1%)
2nd Step: Rinsing with water.

Due to this treatment process the showering time is reduced to 30 to 60 seconds per person.

Effective + quick

Interior Decontamination

Detoxification and disinfection of buildings, shelters, etc. is carried out with help from dry steam of 210°C.

A non aggressive decontamination agent, i.e. RM 21 or RM 35, can be added.

A 10% liquid Di 60 solution is sufficient for the decontamination of terrain. RM 54 can be added to this C8 solution to lengthen its time of action.

Decontamination of Terrain

Water Decontamination

The processing of NBC contaminated water is performed in the Kärcher water treatment system WATERCLEAN 1000 by using the components of the treatment set. Chemical warfare agents react with activated chlorine in an alkaline and acid medium. Disease causing agents (bacteria) are eliminated by the activated chlorine. Virus are rendered inactive by means of adsorption to activated carbon and through flocculation.

In case of industrial pollution, the harmful substances deposit on either the iron hydroxide flakes or the activated carbon. Those radionuclides from a radioactive contamination which are not already eliminated through adsorption and precipitation, are eliminated by a secondary reverse osmosis.

German Registered Utility Model
Decontamination of

<table>
<thead>
<tr>
<th>Material</th>
<th>Clothing</th>
<th>Equipment</th>
<th>Persons</th>
<th>Interior</th>
<th>Terrain</th>
<th>Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radioactive Decontamination</td>
<td>RM 54</td>
<td>RM 54</td>
<td>RM 21</td>
<td>RM 35</td>
<td>DI 60 + RM 54 or RM 55</td>
<td>Set WATERCLEAN</td>
</tr>
<tr>
<td>Disinfection</td>
<td>TDE 202 PC + RM 54 or RM 35</td>
<td>RM 35</td>
<td>RM 21</td>
<td>RM 35</td>
<td>DI 60 + RM 54 or RM 55</td>
<td>Set WATERCLEAN</td>
</tr>
<tr>
<td>Detoxification</td>
<td>TDE 202 or RM 31</td>
<td>FIM 21</td>
<td>TDE 202 or RM 31</td>
<td>RM 21</td>
<td>RM 21</td>
<td>DI 60 + RM 54 or RM 55</td>
</tr>
</tbody>
</table>

Decontamination of pH-Value

<table>
<thead>
<tr>
<th>Part No.</th>
<th>NATO Supply No.</th>
<th>Pack size</th>
</tr>
</thead>
<tbody>
<tr>
<td>RM 21</td>
<td>6291-211</td>
<td>6850-12-173-3864</td>
</tr>
<tr>
<td>RM 35</td>
<td>6291-352</td>
<td>6840-12-157-7440</td>
</tr>
<tr>
<td>RM 54</td>
<td>6291-541</td>
<td>6850-12-167-2341</td>
</tr>
<tr>
<td>RM 31</td>
<td>6291-501</td>
<td>0820-12-173-0724</td>
</tr>
<tr>
<td>DI 60</td>
<td>6291-381</td>
<td>6810-22-123-9190</td>
</tr>
<tr>
<td>TDE 202 LC **</td>
<td>6291-497</td>
<td>Recommended by Kärcher</td>
</tr>
<tr>
<td>TDE 202 LC</td>
<td>6291-498</td>
<td>20 l</td>
</tr>
<tr>
<td>TDE 202 PC **</td>
<td>6291-499</td>
<td>1.2 kg</td>
</tr>
<tr>
<td>TDE 202 PC</td>
<td>6291-500</td>
<td>50 kg</td>
</tr>
<tr>
<td>TDE 202 A PC</td>
<td>6291-502</td>
<td>1 kg</td>
</tr>
<tr>
<td>TDE 202 A PC</td>
<td>6291-503</td>
<td>50 kg</td>
</tr>
<tr>
<td>Set WATERCLEAN</td>
<td>6291-504</td>
<td></td>
</tr>
</tbody>
</table>

*contains calcium hypochlorite ** pack size for DI 10

pH-Value

<table>
<thead>
<tr>
<th>Symbol</th>
<th>pH-Wert</th>
</tr>
</thead>
<tbody>
<tr>
<td>RM 21</td>
<td>7</td>
</tr>
<tr>
<td>RM 35</td>
<td>7</td>
</tr>
<tr>
<td>RM 54</td>
<td>9</td>
</tr>
<tr>
<td>RM 31</td>
<td>11</td>
</tr>
<tr>
<td>TDE 232 LC</td>
<td>8 as</td>
</tr>
<tr>
<td>TDE 202 PC</td>
<td>8 as</td>
</tr>
</tbody>
</table>

Innovation

Development and improvement of decontamination agents has a high priority at Kärcher. This is why Kärcher continually research in its own laboratories and government research centers to produce decontamination agents which are still user friendly and ecologically harmless.

Experience

Kärcher Co. has been the market leader in the field of cleaning and decontamination systems for decades. The product range "Special Customers" have developed and introduced products in the field of decontamination. In close cooperation with customers in over 50 countries coupled the extensive know-how of its specialists, Kärcher produces technologies and materials for radioactive decontamination, disinfection, and detoxification in the military and civil fields.

Kärcher futuretech

Please contact us for further information:

- Protection Systems
- Cleaning and Environmental Protection Systems
- Mobile Catering Systems
- Water Purification

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Nato Supply Code

- 6850 12-173 3864
- 6840 12-157 7440
- 6850 12-167 2341
- 0820 12-173 0724
- 6810 22-123 9190
- 6291 211
- 6291 352
- 6291 541
- 6291 501
- 6291 381
- 6291 497
- 6291 498
- 6291 499
- 6291 500
- 6291 502
- 6291 503
- 6291 504

Decontamination of pH-Value

- 7
- 9
- 11
- 8 as emulsion

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