1. Identification of the Substance and the Company

**EXPANCEL® Microspheres: 920 DU 40**

*Use of the substance:* Blowing agent

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Box 13000  
850 13 SUNDSVALL  
Sweden  
Telephone: +46-60 134000  
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For US customers:  
Eka Chemicals Inc / Expancel, USA  
Telephone: 770-813-9126  
Telefax: 770-813-8639

Email address of competent person responsible for the SDS:  
info.expancel@akzonobel.com

2. Hazards Identification

The product is not classified as dangerous to health or environment according to directive 1999/45/EG and its amendments.

When stored in closed containers:

- the concentration of residual monomer in the vapor phase may reach such a level that inhalation is harmful.
- a flammable atmosphere within the containers can develop.

EXPANCELE DU can cause a dusty atmosphere / dustiness.

Observe that EXPANCELE DU must be properly handled due to risk of static electricity and dust explosion hazard.

3. Composition / Information on Ingredients

*Description:* Acrylic copolymer encapsulating a blowing agent.

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS no</th>
<th>EINECS No</th>
<th>Content</th>
<th>Classification</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Blowing agent</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isopentane</td>
<td>78-78-4</td>
<td>201-142-8</td>
<td>15–20 w-%</td>
<td>F+; R12 Xn; R65 R66 R67 N; R51/53</td>
<td></td>
</tr>
<tr>
<td><strong>Copolymer</strong></td>
<td>38742-70-0</td>
<td></td>
<td>&gt;75 w-%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4. First-Aid Measures

First aid

- **Inhalation:** Fresh air.
- **Skin contact:** Wash with soap and water.
- **Eye contact:** Flush thoroughly with water.
- **Ingestion:** Drink a glass of water.
- **Medical attention:** Professional assistance by a doctor is not needed.

5. Fire-fighting Measures

Extinguishing media: Foam or waterspray is recommended. Containers close to fire should be transferred to a safe place. Toxic fumes may occur as a decomposition product in case of fire.

6. Accidental Release Measures

If material is spilled, eliminate all sources of ignition and prevent spark formation as a result of static electricity. Use respiratory mask when handling the product if dusting cannot be avoided. When handling the material, use rubber gloves to prevent skin contact. Sweep up material.

7. Handling and Storage

**HANDLING:** Open container in a well ventilated area. Allow enough time to permit escape of harmful and flammable vapors before emptying. Maintain adequate ventilation when preparing mixtures and during the expansion process. The release of blowing agent is increased during expansion. Use grounded electrical equipment.

**STORAGE:** Store in a well ventilated area at maximum 50°C. EXPANCEL DU expands at elevated temperatures.
8. Exposure Controls / Personal Protection

Use a respiratory mask when dusting cannot be avoided. Use protective rubber gloves when handling the product.

The release of residual monomers and propellant to the air during expansion of the product may need to be checked depending on content of product and existing ventilation.

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS no</th>
<th>Content</th>
<th>Permissible Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Acrylonitrile</td>
<td>107-13-1</td>
<td>&lt; 0,01 w-%</td>
<td>2 ppm</td>
</tr>
<tr>
<td>- Methacrylonitrile</td>
<td>126-98-7</td>
<td>&lt; 0,01 w-%</td>
<td>1 ppm, 2.7 mg/m³ (*)</td>
</tr>
<tr>
<td>- Isopentane</td>
<td>78-78-4</td>
<td>15–20 w-%</td>
<td>600 ppm</td>
</tr>
<tr>
<td>- Total dust</td>
<td></td>
<td></td>
<td>15 mg/m³</td>
</tr>
</tbody>
</table>

(*) Recommended limits according to ACGIH (The American Conference of Governmental Industrial Hygienists).

9. Physical and Chemical Properties

Appearance: Off-white dry powder.
Odor: No particular odor.
Particle size: 2 – 60 µm
pH: ~10, when dispersed in water
Explosive properties:
Dust explosion hazard. $K_{st} = 240 \text{ [bar*m/s]}$
MIE (Minimum Ignition Energy) = < 3 \text{ [mJ]}
MOC (Minimal Oxygen Concentration) = 14 vol-%
Lowest explosion concentration 40 g/m³ air
Auto ignition temperature: 170°C
Density [kg/m³]: 1000 – 1200
Solubility in water: Insoluble
Soluble in: Dimethylacetamide, Dimethylformamide
Volatile organic compound (VOC): appr 17 %
Organic compounds: appr 100 %
10. Stability and Reactivity

The product is stable and no hazardous reaction will occur.

If the product is stored at temperatures above 50°C the release of blowing agent increases with a risk of explosive air-mixtures.

11. Toxicological Information

Health effects:

Inhalation: Dry microspheres are dusty and may cause transient irritation in the respiratory organ. When stored in closed containers the concentration of monomers in the vapor phase may reach such a level that inhalation is harmful.

Skin contact: May cause dryness.

Eye contact: May cause irritation.

Ingestion: No acute health effect anticipated due to chemical composition.

12. Ecological Information

- Wassergefährdungsklasse: The material constitute a slight danger to water (WGK = 1) according to VwVwS from 17.05.1999, Kenn-Nr 766 (Kunststoff).
- The product is not biologically decomposable.

13. Disposal Considerations

The material can be incinerated.

Follow local regulations concerning disposal.

14. Transport Information

UN No: 2211 Polymeric beads, expandable
IMDG: Class 9, pkg III EmS No: F-A S-I
ADR/RID: Class 9, pkg III
IATA-DGR: Class 9, pkg III
15. Regulatory Information

Labeling: R18: In use, may form flammable/explosive vapor-air mixture.

The present components are listed in the following chemical inventories:
USA: TSCA
Europe: EINECS
Australia: AICS
Canada: DSL
Japan: MITI/ENCS
Korea: ECL
China: SEPA/IECSC
The Philippines: PICCS
Switzerland: SWISS

16. Other Information

The product is not classified as dangerous to environment (N) or health (X) as the isopentane is encapsulated in the product. A person handling the product will not come in contact with it and if spilled it will not escape into the environment.

Explanation of the risk phrases under item 3
R12: Extremely flammable
R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65: Harmful: may cause lung damage if swallowed.
R66: Repeated exposure may cause skin dryness or cracking.
R67: Vapors may cause drowsiness and dizziness.

Changes made in this edition have been indicated by a line in the left margin.

This SDS is in accordance with regulation 1907/2006/EC.

EXPANCEL® is a registered trademark of AkzoNobel in a number of territories in the world.