## Manufacturer Certificate

Declaration of no objection:
Any harmful gas formation for the use of PURSEAL

WEBAC\* PURSEAL is a 2 component polyurethane resin based on polymeric methylene diphenyl diisocyanate (MDI) and prepolymerized polyols without solvents. Both components do not contain any volatile ingredients.

As isocyanates are considered critically with respect to occupational safety requirements we do use polymeric MDI with very low vapor pressure only. Therefore the flashpoint of the isocyanate component is higher than 200 °C and the vapor pressure is lower than 0.01mbar. Thus, the occupational exposure limit of 0.05 mg/m³ will not be exceeded even at higher application temperatures. The polyol component has a flashpoint of higher than 101 °C and a vapor pressure of 1.072 mbar (20 °C). The occupational exposure limit of 44 mg/m³ will not be exceeded as well.

The curing reaction is a chain-growth polymerization – without separation of volatile, perhaps harmful molecules. During the curing process no formation of volatile side products are obtained.

In contact with water a formation of a small amount of carbon dioxide ( $CO_2$ ) can be obtained. Carbon dioxide is a natural occurring gas and also present in the breathable air. Under normal conditions at the working site no impairment is expected.

Concluded: no harmful gases evolve from the basic components or are released during reaction. Thus, during injection there is no danger for the atmosphere or negative effects for breathing inside of the tunnel.

Barsbüttel, 05.09.2016 WEBAC-Chemie GmbH

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**Technische Information** *Technical Information* 

Diese Technische Information soll sie nach dem heutigen Stand unserer Kenntnisse unverbindlich informieren, hierzu erteilte Auskünfte unserer Mitarbeiter sind eber falls unverbindlich. Da uns eile exakten chemischen, technischen und physikalischen Bedingungen der konkreten Anwendung nicht bekannt sind, befreien diese Argaben den Anwender nicht von der eigenen Prüfung der Produkte bzw. Verfahren hinsichtlich ihrer Eignung für die beabsichtigte Anwendung und stellen somit kein Zusicherung der Eignung für einen bestimmten Zweck dar. Für die Einhaltung von Vorschriften und Auflagen bei der Anwendung ist der Anwender verantwortlich allt hie date indicated in this technical data sheet and any related information provided by our employees are of an advisory nature representing our currents tate is knowledge and in no way binding. As the exact chemical, technical and physical conditions of the actual application are beyond WEBAC's control, this information does not precified examination of the praducts and / or pracedures for the intended application and sustange by the user. WEBAC's it thus unable to quaranter and



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