

**Etchant**

Revision: 20<sup>th</sup> of August, 2020

| PRODUCT NAME                | ITEM NO. | SUPPLEMENTARY DETAILS |
|-----------------------------|----------|-----------------------|
| <b>Oberhoffer´s etchant</b> | 92004240 | 1 kg                  |

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|----------------------------------|---|
| <b>Description</b>               | Medium for etching materialographic samples. Common applications are the macroetching of steels. Often Weld lines, flowlines and segregations are contrasted. Microstructures may also be etched with this etchant.   |
| <b>Material</b>                  | Ethanol >40%, hydrogen chloride <10%, iron(III) chloride, Copper dichloride <1,0%<br>All further additives are contained in amounts below the threshold values for mandatory identification and can be considered nonhazardous additives.   |
| <b>Properties</b>                | Low viscosity, dark liquid, characteristic alcoholic smell, pH<7, flash point 13°C, the product may form explosive mixtures with air.   |
| <b>Application</b>               | The samples must be prepared according to the set analytical target. In most cases a grinding step with P1200 is enough. If a microstructure is etched, polishing steps are necessary. The sample is immersed in the medium and moved. The etching times are dependent on the etched material and can range from a few seconds to minutes. After etching the sample has to be rinsed with a 4:1 mixture of ethanol and hydrogen chloride. Then the sample can be cleaned with water and ethanol. After drying in a hot air-stream the microscopic analysis can be conducted. The etching process can be repeated as long as all etching artifacts are removed by repeating the the last grinding or polishing step.                                 |
| <b>Health and safety</b>         | The etchant must be used in a fume cupboard. No ignition sources and flammable liquids should be present. Inhalative exposition has to be minimized. Suitable protective clothing, protective gloves (nitrile rubber, 0.1 mm) and tightly closed eye protection should be worn. In case of dermal exposition, the affected area should be rinsed with water and soap. CO <sub>2</sub> , extinguishing powders and water-spray are suitable extinguishing agents. Thermal decomposition may lead to the formation of chlorinated organic compounds, CO and HCl. In this case the use of self-contained respiratory device is necessary. Further information regarding First aid measures and safety instructions can be taken from the products SDS. |
| <b>Environmental precautions</b> | The product is classified in the water toxicity class 1. It must be kept away from surface-/phreatic waters and sewage systems. The etchant has to be collected separately. It must be disposed of according to local legislation.  |
| <b>Storage</b>                   | The product is assigned to storage class 3 (TGRS510). It should not be stored next to strong bases, ignition sources and flammable liquids. Larger amounts should be secured against electrostatic charging The etchant should be stored in tightly sealed containers in a dry and cool (3-30°C) storage compartment. Further storage related information can be taken from the products SDS.   |