

Etchant.

Revision: 19th of August, 2020

PRODUCT NAME	ITEM NO.	SUPPLEMENTARY DETAILS
Adler ´s etchant	92002602	1 kg

Description	The etchant is used for contrasting purposes in materialography. Commonly the Adler etchant is used for macroetching in steels (e.g. contrasting of weld lines, coatings). The etchant can also be used for micro-etching if a diluted version is applied.
Material	Hydrogen chloride (aqueous conc.) 40-60%, Iron-(III) chloride 5-25%, Diammonium tetrachlorocuprate 2-5% Further additives do not surpass the threshold values for mandatory identification. And can be considered nonhazardous additives.
Properties	Low viscosity, brownish-yellow liquid, characteristic acidic smell, pH <1
Application	The product is used for contrasting weld lines or coatings in steels. The primary application of the etchant is seen in macro etching applications. Nevertheless, micro etching is possible. The etchant can be used as received or diluted (water). The sample has to be prepared according to the analytical goals (min. P1200 fine grinding) and is then immersed in the etchant. The sample should be moved during the etching. The etching time is dependent on the etched material and should not surpass 20 sec. The sample is rinsed with water and ethanol. After drying with hot air, the microscopic investigation can be conducted. The etched sample should show a slightly matte surface finish. The etching process can be repeated if the last grinding or polishing step is carried out again until all etching residues are removed from the samples surface.
Health and safety	The etchant must be used in a fume cupboard. Inhalative exposition has to be minimized. Suitable protective clothing, protective gloves (fluorinated rubber, 0.4 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 ₂ , 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.
Environmental precautions	The product is assigned to water toxicity class 1. It should not be released in Surface-/phreatic waters and sewage systems. It must be collected separately. Any disposal must be conducted according to local legislation.
Storage	The product is assigned to storage class 8 B (TGRS510). It should not be stored next to strong bases. 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.