

Revision: 6th of August, 2020

PRODUCT NAME	ITEM NO.	SUPPLEMENTARY DETAILS
Alcoholic picric acid 5% (Picral)	92002603	1 kg

Description	Etchant for analyzing the microstructures of martensitic steels. The etchant is mainly used for visualizing bainitic or/and martensitic microstructures. The distinction between bainit and martensit is easier, in comparison to Nital.
Material	Ethanol 85-96%, 2,4,6-Trinitrophenol 2-12% All further additives are contained in amounts below the threshold values for mandatory identification and can be considered nonhazardous additives.
Properties	Low viscosity, orange liquid, characteristic alcoholic smell, flash point 13°C, friction, fire and other ignition sources can cause explosions, form highly instable metal compounds.
Application	The etchant can be used as received or diluted with ethanol. The prepared sample (polished 3µm) is immersed in the medium, while being moved. The etching time depends on the material and should not surpass several seconds. The sample should show a slightly matte surface finish. 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 classified in the water toxicity class 2. 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.
Storage	The product is assigned to storage class 3 (TGRS510). It should not be stored next to strong bases or ignition sources. The etchant should be stored in tightly sealed containers in a dry and cool (3-30°C) storage compartment. It has to be protected from direct sunlight and heat. Further storage related information can be taken from the products SDS.