



Electrolyte

Revision: October 1st, 2018

PRODUCT NAME	ITEM NO.	SUPPLEMENTARY DETAILS
Electrolyte C1, Part A	92003007	equals 1 litre in combination with Part B
Electrolyte C1, Part B	92003008	equals 1 litre in combination with Part A

Description	Electrolyte for electropolishing.
Material	The electrolyte Part A consists of 90-99% ethanol with harmless admixtures. The electrolyte Part B consists of 50-60% nitric acid.
Properties	Part A: colorless liquid; odor: alcoholic. Part B: light yellow liquid; odor: pungent.
Application	The components Part A and Part B of the alcohol-based electrolyte C1 must be mixed. The mixture yields one liter of ready-to-use electrolyte. The electrolyte is suitable for contrasting of grain boundaries, grain surfaces and microstructure of copper and copper alloys (brass, bronze, etc.). The mixture must be filled into an electrolyte receptacle of the electrolytical polishing- and etching device. The samples must either be placed on top of the etching unit/cover or dipped into the external etching unit and afterward connected to the anode of the device. To polish and etch the sample, a DC Voltage is now applied for a given time, whereby material gets removed from the sample surface and makes the microstructure visible. To determine the exact etching parameters, follow the instructions of the user's manual of the device. During the etching or polishing process, the electrolyte may warm up. Therefore, it is mandatory to monitor the temperature of the electrolyte and ensure enough cooling.
Health and Safety	The mixed electrolyte or its single components can cause severe burns to the skin and eyes. Avoid contact with eyes and skin. It must not get in contact with hot surfaces or open flames when in use, as the liquid and its vapor are highly flammable. Etching work may only be carried out at a professionally designed workplace. The operation of polishing and etching equipment with certain electrolytes is only allowed in a fume cupboard. Do not swallow the liquid. Keep away from food, beverages and animal feed. Take off dirty, soaked clothes immediately. Wash hands before breaks and when finishing work. Always wear suitable protective clothing and sturdy footwear. For more detailed information, please see MSDS.
Eye protection	Wear tight-fitting safety goggles.
Skin protection	Wear suitable gloves; glove material: nitrile rubber. The selection of suitable gloves does not only depend on the glove's material but also on several other quality properties and varies from manufacturer to manufacturer. As the product is made of different materials, the durability of the gloves material is not predictable and must therefore be checked before use.
Storage instructions	The mixture forms gases. It is therefore necessary to ensure that gases can leak from the container.
Fire and explosions prevention	Keep ignition sources away - Do not smoke. Protect against electrostatic charges.
Respiratory protection	Respiratory protection is not required, but care should be taken to ensure adequate fresh air intake at the workplace.
Environmental precautions	Do not allow product or large quantities of it to reach ground water, water course or other bodies of water. Must not be disposed together with household garbage. The used electrolyte must be collected and disposed in expert fashion in accordance to federal, state, and local regulations as it is hazardous to water.