

Stainless steel surface treatment technology
KEMPLUS Group, Inc
6020, Vanden Abeele, St-Laurent Qc, H4S1R9 CANADA
T: (514) 333-0754 F: (514) 333-5780
www.gkemplus.com, amer@gkemplus.com

KEMPLUS

TECHNICAL SHEET

KP-ETCH501 NITAL 5%

Product Identification

- **Product name** : Nital 5%
- **Use** : Metallographic reagent for the etching of ferrous steels and alloys
- **Main components** :
 - **Nitric acid (HNO₃)**: 5%
 - **Ethanol (C₂H₅OH) or methanol** : 95%

2. Physicochemical properties

- **Appearance** : Colorless to slightly yellowish liquid
- **Smell** : Alcoholic, pungent
- **Density** : Variable depending on the solvent used
- **Boiling point** : Approx. 78°C (ethanol)
- **pH** : 0
- **Solubility** : Miscible with water and organic solvents

3. Instructions for use

1. **Sample preparation** :
 - Polish the metal surface to a mirror state.
 - Clean with a solvent (ethanol or acetone) and dry.
2. **Metallographic Etching**:
 - Immerse the sample in **the Nital 5%** solution for **a few seconds to 1 minute** depending on the material and the desired effect.
 - Rinse immediately with alcohol and then dry with compressed air.
3. **Observation** :
 - Examine the surface under a metallographic microscope.

4. Safety and precautions

- **Corrosive and toxic** : Wear **gloves, safety glasses and lab coats**.
- **Handling in a fume hood** : Releases harmful fumes, do not inhale.
- **Flammable** : Do not use near a heat or flame source.
- **Storage** :
 - In a resistant, airtight glass or plastic container.
 - Away from light and high temperatures.

5. First Aid

- **Skin contact** : Wash immediately with **plenty of water**.
- **Eye contact** : Rinse thoroughly with water for at least **30 minutes** and seek medical attention.
- **Inhalation** : Bring to the open air and consult a doctor if breathing difficulties occur.
- **Ingestion** : **Do not induce vomiting**, drink plenty of water, and call a poison control center.

6. Waste disposal

- Do not dispose of it down the drain.
- Neutralize with a base (e.g. sodium bicarbonate) before disposal.
- Follow local regulations for chemical waste.