PROCEDURE FOR MAKING UP
NITAL (2.0%, 5% & 10%)

USES: GENERAL STEEL ETCHANT - REVEALS FERRITE GRAIN BOUNDARIES, PEARLITE, BAINITE AND MARTENSITE.

Immerse sample for 3 - 20 sec.

INGREDIENTS: NITRIC ACID
ETHANOL (Ethyl Alcohol)
or Industrial Methylated Spirits (for some macro etch applications)
DO NOT USE ANY OTHER FORM OF ALCOHOL (Note 1)

PROCEDURE: ADD 20ml (2.0%) or 50ml (5%) or 100ml (10%) HNO₃ IN SMALL QUANTITIES WITH CONSTANT STIRRING WITH GLASS STIRRING ROD for 1 Litre TO 980ml (2.0%) or 950ml (5%) or 900ml (10%) ALCOHOL

ACID MUST BE ADDED LAST (Note 2)

PERSONAL PROTECTION
Wear ACID RESISTANT GLOVES, FACE SHIELD and LABORATORY COAT when making up Solution.
In the event of a chemical splash USE SAFETY SHOWER or EYE WASH STATION

HAZARDS

Note 1 Other forms of Alcohol INCREASE RISK of EXPLOSION
Note 2 DANGER of EXPLOSION if ACID IS NOT added LAST

Do NOT STORE Solutions >2.5% Conc. they become MORE REACTIVE with time
and could react VIOLENTLY
Do NOT MAKE UP > 10% Conc. they could react VIOLENTLY

Nitric Acid
Extremely Corrosive
Liquid will cause severe burns to skin and eyes and is extremely toxic
Toxic fumes emitted when in contact with many materials.

Ethyl Alcohol
Highly flammable.
Can cause drowsiness, dizziness, headaches and irritation to skin

For further detailed safety information refer:
MATERIAL SAFETY DATA SHEETS