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**TECHNICAL SPECIFICATION SHEET**

**Harris ECO SMART® BORIC ACID FREE FLUX – COLOR CHANGE**

**GENERAL INFORMATION**



**ECO SMART®** is a unique, patent-pending flux that is designed with color change technology that lets you know when it is time to braze.

**ECO SMART®** boric acid free environmentally friendly formula starts out as a green color that changes to clear when the flux becomes active.

**Product Features:**

- Boric Acid and Borax free - Environmentally friendly
- Homogeneous mix that stays in solution or suspended paste
- Powder flux has excellent adherence when heated rod is dipped into flux
- Dissolves surface oxides and protects against oxidation during heating
- Wide activation range
- Excellent flux coverage during heating
- Easy flux residue removal

**PHYSICAL PROPERTIES**

Activity range: 427°C (800°F) - 871°C (1600°F)

Activity: Dissolves base metal oxides.

Fluidity/Wetting: Excellent - Promotes filler metal flow through braze.

Spatter: Very little spatter for undiluted flux.

Life - Base Metal Protection: Excellent throughout the active range - Prevents oxidation of base metal during brazing operation.

Capillary: Excellent

Flux removal: Remove flux residue after brazing with wire brush with hot water.

Base Metals: Copper alloys (copper, brasses & bronze) Promotes optimal bonding between like and dissimilar base metals.

Filler Metals: BAg, LAg, LCuP and BCuP Alloys

Brazing Methods: Flame, induction and furnace brazing.

Active Temperature Indication: Flux color changes from green to clear to indicate that active temperature has been reached.

Consistency: Smooth, with very little separation; flux remains in suspension when stored for extended periods of time.

**BRAZING PROPERTIES:**

For brazing steel, stainless steel, Monel®, nickel, copper, brass, bronze and other ferrous and non-ferrous metals and alloys. Use with Stay-Silv®, Safety-Silv® and other brazing filler metals. Extremely fluid. Will penetrate the tightest joints. Not subject to recrystallization (lumpiness-hardening). May be water thinned. Remove all flux residue on completion of brazing.

**AVAILABLE FORMS:**

250gr, 500gr, 1000gr, 25kg, 50kg (each Paste or Powder)

**SPECIFICATION COMPLIANCE:**

**Does not contain Boric acid or any Sodium-Borate salts.** The use of boric acid and sodium-borate salts is subject to restrictions within the European Union per Article 57 (c) of Regulation (EC) 1907/2006 - REACH (Registration, Evaluation, Authorization and Restriction of Chemicals). Studies performed for the EC (European Counsel) found that these chemicals can damage the reproductive systems and fetal development.

AWS Specification: AWS A5.31M/A5.31: 2012 FB3-A

International Standard: EN 1045 FH 10

**WARNING: PROTECT yourself and others. Read and understand this information.**

**FUMES AND GASES can be hazardous to your health.**

- Before use, read and understand the material Safety Data Sheets (MSDS), and your employer's safety practices.
- Keep your head out of fumes.
- Use enough ventilation, exhaust at the arc, or both, to keep fumes and gases from your breathing zone and the general area.
- Wear correct eye, ear, and body protection.

All statements, information and data given are believed to be accurate and reliable but are presented without guarantee, warranty or responsibility of any kind, expressed or implied. Additional information available at our web site:

**[www.harrisproductsgroup.com](http://www.harrisproductsgroup.com)** ISO 9001.