GOVERNMENT - INDUSTRY DATA EXCHANGE PROGRAM

ALERT

1. TITLE *(Class, Function, Type, etc.)*		2. DOCUMENT NUMBER
Electric Hand Tool, Soldering Iron, Thermal Runaway		H1-A-04-01
		3. DATE *(DD-MMM-YY)*: 22 January 2004

4. MANUFACTURER AND ADDRESS	5. PART NUMBER	6. NATIONAL STOCK NUMBER
Cooper Hand Tools - Weller Division 1000 Lufkin Road Apex, NC 27539	TCP12P	NOT AVAILABLE
	7. SPECIFICATION: NOT APPLICABLE	8. TYPE DESIGNATOR: NOT APPLICABLE
	9. LOT DATE CODE START: ALL	10. LOT DATE CODE END: ALL

11. MANUFACTURER'S POINT OF CONTACT	12. CAGE	13. MANUFACTURER'S FAX
Claude W. "Bubba" Powers	96508	(919) 387-2639
14. MFR. POC PHONE: (919) 387-2636	15. MANUFACTURER'S E-MAIL: Bubba.powers@coopertools.com	

16. CROSS REFERENCE VENDOR	17. CROSS REFERENCE CAGE	18. CROSS REFERENCE PART
NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE

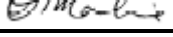
19. PROBLEM DESCRIPTION / DISCUSSION / EFFECT

Weller® Model TCP12P Soldering Iron. Due to the mechanical Temperature Control Switch that works on the Curie Principle of design (Ferromagnetic Sensing Action), the Weller® Model TCP12P Soldering Iron may have the opportunity to fail in two different modes.
The first mode, which involves the Ferromagnetic Switch sticking or hanging in the "Full On" mode, would be the worse of the two modes of failure. If the Ferromagnetic Switch sticks in the "Full On" mode, the soldering iron will proceed to go into a Thermal Runaway Condition, which will allow the iron to reach temperatures of approximately 1200° F, at the heater/tip interface and result in possible fire, injury, and/or damage to the article being processed. This temperature is based on the "Mass and Length of the Soldering Iron Tip" that may be installed in the iron at the time of failure. A larger mass and length will help to lower the overall temperature of the tool in this "Thermal Runaway" condition. Accompanied by an appropriate "Tool Holder" that normally surrounds the heated portion of the soldering iron, the overheat condition should be generally harmless to the working environment. The mating plastic and metal components with which the soldering iron is assembled (Nylon Handle, Ryton Insulator and Stainless Steel covers), have been deemed totally safe in "Full On" testing that Weller®, UL, CUL/CSA, VDE and CE have performed. Testing has been performed on tools that have been purposely turned "Full On" for weeks and, in some cases, months without any significant changes to the materials used in the normal construction of this product or products of similar design.
The second mode of failure involves the Ferromagnetic Switch sticking in a "Full Off" mode, which basically means that the tool will not heat at all. This would be the better of the two modes of failure, but it is not guaranteed that the tool will go in this direction.
The cause of these failures is unknown. Probability of either failure mode is remote, although they have occurred.

20. ACTION TAKEN/PLANNED

For the particular application, appropriate hazard controls were put into place in order to prevent a catastrophic event in case the thermal runaway occurred. This included material testing and inducing the thermal runaway failure and recording results.

21. DATE MFR. NOTIFIED	22. MANUFACTURER'S RESPONSE	23. ORIGINATOR ADDRESS/POINT OF CONTACT
22 JAN. 2004	[ ] REPLY ATTACHED [X] NO REPLY	John Laux/Hernandez Engineering Inc. Bldg. 4471/HEI Marshall Space Flight Center, AL 35812 (256) 544-3545

24. GIDEP REPRESENTATIVE	25. SIGNATURE	26. DATE
Prince Kalia/MSFC-QS40 (256)544-6871		13 FEB. 2004

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