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From: Meredith Brown <racer@lanl.gov>  
Subject: Blue Alert: Closure Ring Weld Failure

**TITLE: Drum Closure Ring Weld Failures**

IDENTIFIER: LLNL-1998-021

Date: July 8, 1998

**LESSONS LEARNED STATEMENT:** An effective pre-use drum inspection program is essential to assuring material containment when packaging waste materials.

**ANALYSIS:** During a two month period, LLNL experienced four separate incidents of weld failure on open head steel drum closure rings when tightening the closure nut. The closure rings were provided by a major US steel drum supplier and were part of drums identified as UN1A2/400/S. On inspection, it was noted that the lug nut welded to the closure ring had either broken away or pulled away from the ring during the lug nut tightening process. These drums contained waste material and were being prepared for shipment.

**RESOLUTION/RECOMMENDED ACTIONS:** A stop-use notice has been placed on the use or procurement of all steel drums from this supplier pending further evaluation of the drums and their closure rings. Technicians are being given additional training by welding experts to help better identify defective welds. LLNL is performing a detailed and focused evaluation of the suppliers manufacturing and DOT testing program as part of the existing container supplier evaluation program.

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REFERENCES: None

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