



Safety Alert

From the International Association of Drilling Contractors

ALERT 01 – 39

Oxygen/Acetylene Torch Catches Fire and Explodes

WHAT HAPPENED:

A worker was using an Oxygen/Acetylene torch setup on a cart, a portable welder, and a grinder. Apparently the Acetylene hose developed a leak and ignited during the grinding operation. A worker attempted to extinguish the blaze with a nearby fire extinguisher however he quickly determined that the fire was beyond his capabilities. The area was evacuated and the fire department was immediately dispatched to put out the fire. There were NO injuries.

WHAT CAUSED IT:

Mixed gases will burn rapidly once the torch is lighted and can explode in the hoses, regulators, or cylinders, resulting in serious damage to the equipment and/or injury to the operator. The torch setup was not equipped with a “flashback” arrestor check valve and the fire traveled through the hose into the compressed cylinder. Reverse flow from one line to another can be caused by:

Loss of pressure in one line

A cylinder emptying in use

Flashback

CORRECTIVE ACTIONS: To address this incident, this company did the following:

- To prevent this type of occurrence, they installed “Flashback” arrestor check valves at the regulators, of all Oxygen/Acetylene setups, NOT at the torch head. This little device would have prevented this fire.
- For improved safety they also used reverse flow “flashback” arrestor check valves
- Instituted a daily inspection program in which workers must inspect tools & equipment immediately remove defective equipment from service.
- A six month program for check valves function testing was established.
- All torch setups on the project were inspected to make sure they have the required safety check valves to prevent this from reoccurring.



The Corrective Actions stated in this alert are one company’s attempts to address the incident, and do not necessarily reflect the position of IADC or the IADC HSE Committee.

This material is presented for information purposes only. Managers & Supervisors should evaluate this information to determine if it can be applied to their own situations and practices.
Copyright © 2001 International Association of Drilling Contractors. All Rights Reserved

Issued October 2001