

Kansas Administrative Regulations

Kansas Department of Agriculture

Article 10.—Anhydrous Ammonia

4-10-2e. Container valves and appurtenances.

(a) Connections to containers shall be limited to liquid-level gauges, emergency shutoff valves, pressure gauges, vapor-relief valves, liquid lines, vapor lines, and thermometers.

(b) Each vapor line and liquid line shall have a manually operated shutoff valve located as close to the container as practical.

(c) On or before July 1, 2012, each permanent storage container shall be equipped with an emergency shutoff valve that meets the requirements of K.A.R. 4-10-1 (I).

(d) No metal part or component of a system that is normally in contact with anhydrous ammonia shall be made of a metal that is incompatible with anhydrous ammonia, including galvanized metal, cast iron, zinc, copper, and brass.

(e) Openings from the container or through fittings that are not larger than a no. 54 drill size opening shall not be required to be equipped with an excess flow valve.

(f) Each valve and appurtenance shall be suitable for use with anhydrous ammonia and designed for not less than the maximum pressure to which the valve and appurtenance will be subjected. Each valve that could be subjected to container pressures shall have a rated working pressure of at least 250 psig.

(g) (1) Each vapor or liquid line greater than a no. 54 drill size opening shall be equipped with an excess flow valve that closes automatically at the rated flows of vapor or liquid specified by the manufacturer.

(2) The connections, lines, valves, and fittings protected by one or more excess flow valves shall have a greater capacity than the rated flow of the excess flow valves so that the valves will close in case of failure at any point in the lines or fittings.

(h) Each liquid connection used to fill a permanent storage container shall be fitted with a backflow check valve.

(i) (1) All piping, tubing, and fittings subjected to container pressure shall be made of materials specified for use with anhydrous ammonia and shall be designed for a minimum working pressure of 250 psig.

(2) All piping, tubing, and metering or dispensing devices shall be securely mounted and protected against damage.

(3) Threaded joints may be used only with seamless black steel pipe that meets or exceeds ASME schedule 80 specifications. Black steel pipe that meets or exceeds ASME schedule 40 specifications with at least 800 psig minimum bursting pressure may be used if pipe joints are welded or joined by means of welding type flanges. Pipe joint compounds used shall be resistant to ammonia.

(4) Each flexible connection shall have a bursting pressure of at least 1,000 psig.
(Authorized by and implementing K.S.A. 2-1212; effective May 1, 1987; amended March 12, 2010.)

***** Authenticated Kansas Administrative Regulation *****