



Catalysts BY EVONIK

Handling Procedures for Activated Metal Catalysts (AMC)

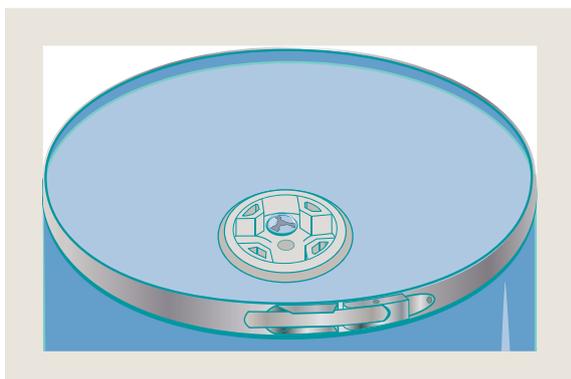
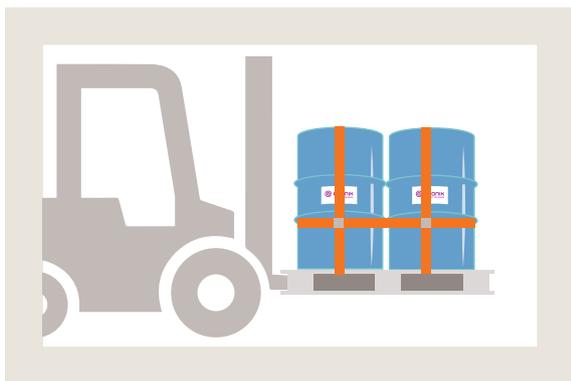
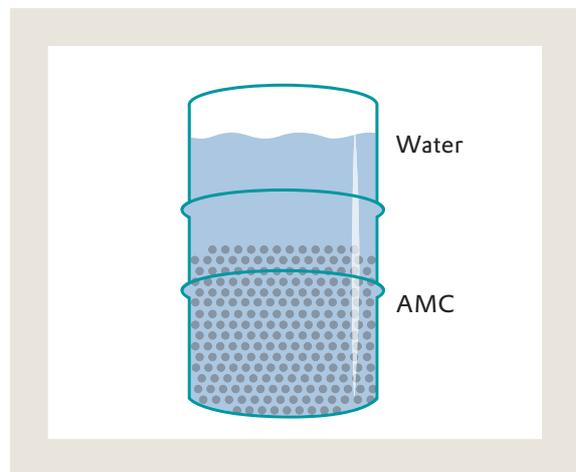
General Information

General Safety Advice

Evonik activated metal catalysts (AMC) are heterogeneous powder catalysts with no support (bulk catalysts) for slurry type reactions carried out in batch, semi-batch or continuous mode. These catalysts are considered pyrophoric due to hydrogen on the metal surface and the exothermic oxidation of the catalytic metal in the presence of air.

Therefore a protective water layer over the catalyst is used to avoid any pyrophoric reactions.

Please carefully read the MSDS before handling our catalysts!



Drum Handling

AMC catalysts desorb hydrogen over time.

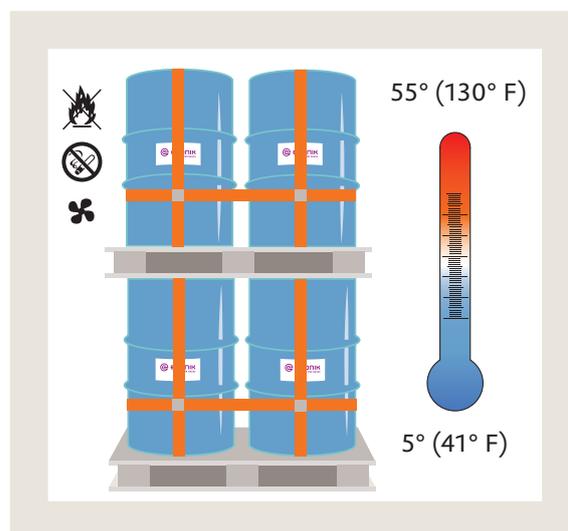
To prevent an increase of pressure from the released hydrogen, the transportation drums are equipped with a pressure relief valve. The pressure relief valve is designed to maintain a pressure of less than 0.5 barg. Care should be taken not to damage or block the valve. During transportation the drums shall be fixed in an upright position without the possibility to tip over. If a drum containing catalyst is allowed to tip over, then the ventilation valve will be blocked from the inside and the potential for water loss occurs. Although the catalysts are stored in such drums, it is important that precautions are taken when opening them. In order to release the pressure inside the drum, slowly open the lid ring. These drums should be opened in well-vented areas while wearing the personal protection equipment described in the MSDS and do not position any part of your body over the container when opening it. Open flames, spark sources, and smoking must be forbidden while opening and/or venting these containers.

AMC Storage

The AMC catalysts are supplied in steel drums and the catalyst should be kept completely covered with water in their vented containers until use. If a partially used container must be stored, then enough water must be present to make sure that the catalyst is completely covered at all times, and the lid should be put back on the container so that no water will be lost and the pressure release system continues to function. Due to hydrogen desorption the catalysts should be stored in a well-ventilated area where open flames, spark sources, flammable materials, and smoking are forbidden.

Additionally, the drums should be protected from all puncture risks. The catalyst must not be stored directly in the sun or in other extremely hot areas, and it should be kept from freezing. For safety reasons, the catalysts must not be stored at temperatures above 55 °C (130 °F).

As a matter of safety, do not remove the labels from AMC drums until the contents are removed and the drums are cleaned.



Material	Metal catalyst, wetted with a visible excess of liquid	
UN number	1378	
Hazard number	40	
ADR Label		Spontaneously combustible
ADR class	4.2	
Classification code	S4	
Packaging group	II	
ERI card	4-02 2	

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