

## 3D Jet Cat Activators



### Product Features

TSA (Toluenesulfonic Acid) and BSA (Benzenesulfonic Acid) Catalysts are used in conjunction with HA International Phenolic and Furan Enviroset 3D Jet Binders for 3D printing applications. The Jet Cat Activator line offers a range of three (3) products with cure speeds suitable for all 3D printing applications.

### Product Description

The Jet Cat Activator line includes products formulated with Toluenesulfonic Acid, Benzenesulfonic Acid, or a combination of these acids. Activators are in water solution. This flexibility of the product line allows HA International to offer a product for any application. The speed of cure depends on the binder being used and on the type and amount of activator. The broad range of Jet Cat Activators available offers the greatest possible flexibility. Typically, the activator is added to sand or substrate first, at a level of approximately 10 - 25% (based on the weight of resin), with the specific percentage dependent on the work time - strip time requirements. After the activator is dispersed, the resin is jetted onto the sand/substrate, with level dependent upon the geometry of the printed part required. The same activators may find use in both Furan (Enviroset) and Phenolic Resin systems.

The typical properties of the Jet Cat Activators are defined in the table below.

<b>Product Name</b>	<b>3D Jet Cat T</b>	<b>3D Jet Cat C</b>	<b>3D Jet Cat B</b>
<b>Product Number</b>	<b>380781</b>	<b>380780</b>	<b>380779</b>
<b>Type</b>	<b>TSA</b>	<b>TSA/BSA</b>	<b>BSA</b>
<b>Specific Gravity</b>	1.23	1.25	1.29
<b>% Water</b>	31	28	27
<b>Acidity</b>	40	43	49
<b>% Sulfuric</b>	0.9max	1.5max	2.5max

## **Product Selection**

The proper activator choice for any given application is dependent on a large number of variables, including strip time required, sand type and quality, sand temperature, and binder type. HA International will be pleased to analyze each situation and make recommendations based upon all the parameters.

## **Storage Guidelines**

HA International Jet Cat Activators should be stored at temperatures below 90 °F. Storage in direct sun light should always be avoided. Activators stored in bulk should be stored in tanks specifically designed for storage of the acids used.

## **Safe Handling**

Jet Cat Activators are strong organic acids, and are corrosive and irritating to the eyes and skin. Chemically resistant gloves and eye protection should be used when handling or using Jet Cat Activators. Material Safety Data Sheets are available for all products. Drum labels also contain handling information. These acid activators will react in a violent reaction with furan or phenolic resins. Do not mix any of these activators directly with furan or phenolic resins; a severe exothermic reaction will result. Jet Cat Activators and Enviroset 3D Jet Resin must be added to sand separately to avoid an uncontrolled exothermic reaction.

## **Technical Service**

Proper selection of a binder system that meets your specific needs is key to achieving maximum performance benefits. HA International LLC provides in-depth technical assistance and a wide range of acid catalyst systems. Both our in-house and field experts are available to assist you with your most challenging foundry applications. If you require additional information relating to the use of the Acid Catalysts, or the use of other HA International products in foundry applications, please contact your HA International representative so that we may assist you in putting together a binder system and foundry team that will help you achieve your goals.

**For Emergency Medical Assistance Please Call:**  
Health & Safety Information Services: 1-866-303-6949

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