



# Material Safety Data Sheet

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Issued:	24 11 2005
Revised:	14 06 2008
Rev No.	5
Product:	FFS Catalyst

<b>COMPANY DETAILS:</b>		
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<b>1) PRODUCT DETAILS:</b>		
Product name:	FFS MB 1 Catalyst and Packing	
Chemical nature:	Cobalt / Molybdenum on Alumina Base Catalyst, Ceramic Balls.	
Synonyms:	CoMo, Hydrogenation Catalyst and Packing	
<b>2) COMPOSITION</b>		
Aluminium Oxide (Al <sub>2</sub> O <sub>3</sub> )	CAS 1344-28-1	80 – 90%
Cobalt Oxide (CoO)	CAS 1307-96-6	1 – 5%
Molybdenum Oxide (MoO <sub>3</sub> )	CAS 1313-27-5	3 – 10%
<b>3) HAZARDS IDENTIFICATION</b>		
Blue extrudates and round white to grey ceramic balls. Harmful and dangerous to the environment. Toxic to aquatic life. Cobalt ingestion may cause effects on the heart after short-term exposure. Ceramic balls are inert.		
<b>4) FIRST AID MEASURES</b>		
	<b>Symptom and Effect</b>	<b>First Aid</b>
Skin	Prolonged and repeated contact with skin may cause sensitisation;	Wash with soap and water. Seek medical attention if sensitivity persists. Physicians to treat symptomatically. If causal relationship has been confirmed, further exposure should be stopped
Eyes	Contact with eyes may cause redness, tearing, and irritation.	Flush eyes with clean water for 15 minutes. Seek medical advice if irritation persists.
Ingestion	Harmful if swallowed.	Do not induce vomiting. Give nothing by mouth. Seek medical attention
Inhalation	Excessive exposure may cause respiratory tract irritation.	Immediately remove to fresh air. Seek medical advice if required or if irritation persists
<b>5) FIRE FIGHTING MEASURES</b>		
Material is not combustible. Use fire fighting equipment as required by environment		
<b>6) ACCIDENTAL RELEASE MEASURES</b>		
Overalls, gloves, respirator and goggles to be worn. Avoid dust clouds. Recover as much free product as possible using shovels or mechanical means. Avoid the product entering storm water drains or waterways. Store in sealed containers (drums) and dispose in appropriate fashion.		
<b>7) HANDLING AND STORAGE</b>		
<b>Handling:</b> Full protective clothing should be worn when handling the product. Avoid creating dust. A high standard of personal hygiene is essential. Application of protective hand creams may be beneficial. Use in well-ventilated areas.		



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<b>Handling temperature:</b> Avoid extreme temperatures	
<b>Storage:</b> Store in plastic-lined drums. Keep away from water - product degrades on contact with water.	
<b>8) EXPOSURE CONTROLS/ PERSONAL PROTECTION</b>	
Occupational Exposure Limits:	CoO 0.02 mg/m <sup>3</sup> TWA MoO <sub>3</sub> 10 mg/m <sup>3</sup> TWA
Controls	Control dust by ventilation. Wash hands and clothing if contaminated. Use respirators for particulate filtering
Personal Protection: Al <sub>2</sub> O <sub>3</sub> 10 mg/m <sup>3</sup> TWA	Wear suitable goggles, gloves and shoes to limit skin contact. Ensure adequate ventilation. If engineering controls and work practices are not effective in controlling this material, then wear suitable personal protection equipment including overalls, impervious gloves, respirators, safety goggles, safety boots or gumboots.
<b>9) PHYSICAL AND CHEMICAL PROPERTIES</b>	
Blue extrudates with no odour. Low solubility in water. Density @ 20 <sup>0</sup> C, kg/l: 0.8	Boiling Point: Not Applicable Melting Point ~ 2000 deg Flashpoint @ 101, 325 kPa: Not Applicable
<b>10) STABILITY AND REACTIVITY</b>	
Avoid strong oxidisers, acids and bases.	
<b>11) TOXICOLOGICAL INFORMATION</b>	
CoMo Catalyst on Alumina has LD/LC50 > 2000 mg/kg (calculated) tested on rats. Cobalt Oxide is a sensitizer by inhalation and absorption through the skin. Prolonged exposure at levels as low as 1ppm can be fatal. Deaths have been reported and Myocardial infarction has been found. Cobalt Oxide is a possible human carcinogen classed in group 2B by IARC	
<b>12) ECOLOGICAL INFORMATION</b>	
Some components of the product are soluble in water and may contaminate groundwater reserves. Some components of the product will persist in soil. Material is moderately toxic to aquatic organisms. Not toxic at the limit of water solubility in sewage treatment.	
<b>13) DISPOSAL CONSIDERATIONS</b>	
Do not flush to drain/ storm sewer. Product must be disposed of in an approved hazardous waste disposal site. Empty containers should not be used for other purposes	
<b>14) TRANSPORT INFORMATION</b>	
UN no. / SIN	3190
ICS	Class 4.2, Group 111



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### 15) REGULATORY INFORMATION

National Legislation (SA)	National Road Traffic Act 93 of 1996 Hazardous Substances Act 15 of 1973 Occupational Health and Safety Act 85 of 1993 Hazardous Chemical Substances Regulation GNR 1179
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### 16) OTHER INFORMATION

For more information please contact FFS Refiners' Customer Services Department on +27 (31) 459 5300

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