



Material Safety Data Sheet

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Issued:	12 02 2008
Revised:	15-04 2009
Rev. No.:	7
Product:	Used Catalyst

COMPANY DETAILS:

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1) PRODUCT DETAILS:

Product name: Used Catalyst
Chemical nature: Cobalt / Nickel / Molybdenum on Alumina Base Catalyst with oil, free carbon, sulphur, resin and ashphaltene contaminants.
Synonyms: CoMo, NiMo, Hydrogenation Catalyst

2) COMPOSITION

Aluminium Oxide	(Al ₂ O ₃)	CAS 1344-28-1	70 – 80%
Cobalt Sulphide	(CoS)	CAS 1307-96-6	01 – 05%
Molybdenum Sulphide	(MoS ₂)	CAS 1313-27-5	03 – 10%
Carbon Components	(C)		10 – 20%
Nickel Oxide	(NiO)	CAS 34492-97-2	1 – 5%

3) HAZARDS IDENTIFICATION

Black extrudates. Harmful and dangerous to the environment. Toxic to aquatic life. Danger of serious damage to health by prolonged exposure through inhalation and if swallowed. Possibility of skin sensitisation. Cobalt ingestion may cause effects on the heart after short-term exposure. Should be considered pyrophoric.

4) FIRST AID MEASURES

	Symptom and Effect	First Aid
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 and under eyelids with clean water for 15 minutes. Seek medical advice if irritation persists.
Ingestion	Harmful if swallowed, may cause severe gastro intestinal irritation (nickel).	Do not induce vomiting. Give large quantities of water. Never give anything by mouth to unconscious person. Seek medical attention.
Inhalation	May cause irritation to nose, throat, and respiratory tract. May damage lungs.	Immediately remove to fresh air. Apply artificial respiration if person not breathing. Seek medical attention.

5) FIRE FIGHTING MEASURES

Fire fighters should wear self-contained breathing apparatus and full protective clothing. Extinguishing media: water fog, foam, dry chemicals or carbon dioxide.

6) ACCIDENTAL RELEASE MEASURES

Remove sources of heat or ignition. 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.



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7) HANDLING AND STORAGE

Handling: Smoking, eating and drinking must be prohibited in area where used and stored. 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. Avoid contact of product with skin and eyes.

Handling temperature: Avoid extreme temperatures

Storage: Store in plastic-lined drums with nitrogen atmosphere preferably. Keep drums tightly closed. Water may also be used to limit pyrophoric action of used catalyst.

8) EXPOSURE CONTROLS/ PERSONAL PROTECTION

Occupational Exposure Limits:	CoO 0.02 mg/m ³ TWA Al ₂ O ₃ 10 mg/m ³ TWA MoO ₃ 10 mg/m ³ TWA NiO 0.1 mg/m ³ TWA
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Controls	Control dust by ventilation. Wash hands and clothing if contaminated. Use respirators for particulate filtering.
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Personal Protection:	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.
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9) PHYSICAL AND CHEMICAL PROPERTIES

Black extrudates with oily sulphurous odour. Insoluble in water. Density @ 20 ⁰ C, kg/l: 0.8	Boiling Point: Not Applicable Melting Point ~ 2000 deg Flashpoint @ 101, 325 kPa: Not Applicable
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10) STABILITY AND REACTIVITY

Avoid strong oxidisers, acids and bases.

11) TOXICOLOGICAL INFORMATION

CoMo Catalyst on Alumina has LD/LC50 > 2000 mg/kg (calculated) tested on rats. Cobalt Oxide is a sensitiser 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

12) ECOLOGICAL INFORMATION

The product must not be allowed to enter drains or waterways. Some components of the product are soluble in water and may contaminate groundwater reserves and may persist in soil. Material is toxic to aquatic organisms. Not toxic at the limit of water solubility in sewage treatment.

13) DISPOSAL CONSIDERATIONS

Do not flush to drain/ storm sewer. Product must be disposed of in an approved hazardous waste disposal site. Empty containers must not be used for other purposes.



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14) TRANSPORT INFORMATION

UN no. / SIN	3190
ICS	Class 4.2, Group 111

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 or Petrus Scholtz (General Manager Marketing) +27 83 676 0529 or Pierre Rossouw (Research & Development Manager) +27 82 904 0536.

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