



SAMPLE MATERIAL

GUARDIAN-T5

HIGH VOID-SPACE TOPPING MATERIAL

Type: Ceramic Five Opening Inert Tablets

Application Areas: Hold-down material, Particulate Trap, Bed Grading

Description: Part of TRICAT's GUARDIAN Family, GUARDIAN-T5 is an inert five-opening hollow cylinder hold-down material with exceptional physical integrity and maximum void space. GUARDIAN-T5 offers uncompromised performance at a TRICAT value price.

0.38" / 10mm



0.50" / 13mm



0.75" / 19mm



1.00" / 25mm



www.tricatgroup.com

HEADQUARTERS:
260 Schilling Circle
Hunt Valley, Maryland 21031
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NORTH AMERICAN
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McAlester, Oklahoma 74501
Tel. (918) 423-5800, Fax (918) 423-7477

PRODUCT SHEET

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Typical Properties:

Material		GUARDIAN-T5			
Shape		5 Hole Cylinder			
Diameter	Inches	0.38	0.50	0.75	1.00
Height	Inches	0.22	0.29	0.43	0.57
Void Space		56%	58%	61%	63%
Bulk Density	lbs. / ft. ³	55			
Attrition	wt. %	3			
Crush Strength, Radial/Axial	lbs./mm.	15 / 30			
Packaging:					
Sacks	lbs.	55 (1 Cu. Ft.)			
Drums	lbs.	300			

02/02



PRODUCT SHEET

GUARDIAN-CR
HYDROPROCESSING CATALYST

Type: Cobalt Molybdenum (Co/Mo) Hollow Cylinder

Application Areas: Particulate Trap, Bed Grading, HDS Activity

Description: Part of TRICAT's GUARDIAN Family, GUARDIAN-CR is a hollow cylinder with excellent physical integrity. GUARDIAN-CR demonstrates high void space for maximum effectiveness in trapping particulates that may lead to excessive pressure drop. GUARDIAN-CR offers very good HDS activity for all fixed bed hydrotreating applications where guard bed topping material is beneficial.

Typical Properties:

Catalyst		GUARDIAN-CR	
Shape		3/16" Hollow Cylinder	
CoO	wt. %	2	
MoO3	wt. %	8	
Bulk Density	lbs. / ft. ³	Sock	Dense
		35	40
Surface Area	m ² /g	200	
Attrition	wt. %	2	
Side Crush Strength	lbs./mm.	2	
Packaging:			
Supersacks	lbs.	1,000	
Drums	lbs.	300	
Stoichiometric S uptake	wt. %	5	

02/02



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PRODUCT SHEET

GUARDIAN-CT

HYDROPROCESSING CATALYST

Type: Cobalt Molybdenum (Co/Mo) Shaped Extrudate

Application Areas: HDS Activity, Bed Grading

Description: Part of TRICAT's GUARDIAN Family, GUARDIAN-CT is a high HDS activity three-lobed extrudate for guard bed, grading, or topping material in fixed bed naphtha through vacuum resid fed hydrotreating applications.

Typical Properties:

Catalyst		GUARDIAN-CT	
Shape		TriCatLobed	
CoO	wt. %	3	
MoO3	wt. %	12	
Bulk Density	lbs. / ft. ³	Sock	Dense
		42	48
Surface Area	m ² /g	200	
Attrition	wt. %	2	
Side Crush Strength	lbs./mm.	5	
Packaging:			
Supersacks	lbs.	1,800	
Drums	lbs.	300	
Stoichiometric S uptake	wt. %	7	

02/02



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PRODUCT SHEET**GUARDIAN-NR**
HYDROPROCESSING CATALYST

Type: Nickel Molybdenum (Ni/Mo) Hollow Cylinder

Application Areas: Particulate Trap, Bed Grading, HDS/HDN/HDM Activity

Description: Part of TRICAT's GUARDIAN Family, GUARDIAN-NR is a hollow cylinder with excellent physical integrity. GUARDIAN-NR demonstrates high void space for maximum effectiveness in trapping particulates that may lead to excessive pressure drop. GUARDIAN-NR offers very good HDS, HDN, and HDM activity for all fixed bed hydrotreating applications where guard bed topping material is beneficial.

Typical Properties:

Catalyst		GUARDIAN-NR	
Size / Shape		3/16" Hollow Cylinder	
NiO	wt. %	3	
MoO3	wt. %	12	
Bulk Density	lbs. / ft. ³	Sock	Dense
		35	40
Surface Area	m ² /g	160	
Attrition	wt. %	2	
Side Crush Strength	lbs./mm.	2	
Packaging:			
Supersacks	lbs.	1,000	
Drums	lbs.	300	
Stoichiometric S uptake	wt. %	5	

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PRODUCT SHEET

GUARDIAN-NT

HYDROPROCESSING CATALYST

Type: Nickel Molybdenum (Ni/Mo) Shaped Extrudate

Application Areas: HDS, HDN, and HDM Activity, Bed Grading

Description: Part of TRICAT's GUARDIAN Family, GUARDIAN-NT is a high HDS, HDN, HDM activity three-lobed extrudate for guard bed, grading, or active topping material in fixed bed naphtha through vacuum resid fed hydrotreating applications.

Typical Properties:

Catalyst		GUARDIAN-NT	
Size / Shape		1/10" TriCatLobed	
NiO	wt. %	3	
MoO ₃	wt. %	12	
Bulk Density	lbs. / ft. ³	Sock	Dense
		46	52
Surface Area	m ² /g	160	
Attrition	wt. %	2	
Side Crush Strength	lbs./mm.	5	
Packaging:			
Supersacks	lbs.	1,800	
Drums	lbs.	300	
Stoichiometric S uptake	wt. %	7	

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