

Technical Data Sheet (TDS)

Shell Brake & Clutch Fluid DOT 3



Shell Brake & Clutch Fluid DOT 3 is a glycol ether based hydraulic brake fluid, specifically formulated to exceed the requirements of the internationally recognised hydraulic brake fluid standards: FMVSS No 116 DOT3, SAE J1703, ISO4925 Class 3 and JIS K2233.

The material composition and performance will ensure the safe and reliable operation of vehicle braking systems, the key points being;

High Boiling Point – Comfortably exceeds the minimum ERBP and WERBP requirements, therefore minimising the risk of vapour lock under extreme conditions

Optimal Viscosity – our product is manufactured to ensure the system remains responsive in very cold conditions whilst preventing leakage and maintaining good lubricity at high operating temperatures

Corrosion Inhibition – fully protecting the complete range of metallic components within the braking system against corrosion damage and potential system failure.

Rubber Compatibility – promotes the correct rubber swell / hardness of all rubber components to maximise the working life of system seals, ensuring a safe system operation

Fluid Compatibility - can be safely mixed with other brake fluids meeting the DOT 3 specification. It is not compatible with a Mineral Oil based fluid.

TYPICAL PROPERTIES

Property	Units	Requirement	Shell Dot3
Appearance	-		Clear and bright
Colour	-	Colourless to amber	Colourless to amber
Density @ 20 °C	g/cm ³		1,039
Equilibrium Reflux Boiling Point (ERBP)	°C	205 min.	256°C
Wet Equilibrium Reflux Boiling Point (WERBP)	°C	140 min.	152°C
Viscosity @ -40 °C	mm ² /s	1500 max.	1019
Viscosity @ 100 °C	mm ² /s	1,5 min.	2,175
pH	-	7-11,5	9,77

Technical Data Sheet (TDS)

Shell Brake & Clutch Fluid DOT 3



Fluid Stability (High temperature)		°C	± 5	± 5	SAE J1703 ISO 4925
Fluid Stability (Chemical)		°C	± 5	± 5	SAE J1703 ISO 4925
Effect on SBR Rubber	70 °C	Increase of diameter, mm	0.15-1.4	0.15-1.4	FMVSS 116 SAE J1703 ISO 4925
		Hardness decrease (IRHD)	10 max	10 max	
		Disintegration	none	none	
	120 °C	Increase of diameter, mm	0.15-1.4	0.15-1.4	
		Hardness decrease (IRHD)	15 max	15 max	
		Disintegration	none	none	
Effect on EPDM Rubber	70 °C	Volume increase, %	0-10	0-10	SAE J1703 ISO 4925
		Hardness decrease (IRHD)	10 max	10 max	
		Disintegration	none	none	
	120 °C	Volume increase, %	0-10	0-10	
		Hardness decrease (IRHD)	15 max	15 max	
		Disintegration	none	none	
Fluidity and appearance at low temperatures	-40 °C	Appearance	As before test	As before test	FMVSS 116 SAE J1703
		Sludging, sedimentation crystallisation or stratification	none	none	
		Flow time, secs	10 max	10 max	
	-50 °C	Appearance	As before test	As before test	
		Sludging, sedimentation crystallisation or stratification	none	none	
		Flow time, secs	35 max	35 max	
		Appearance	As before test	As before test	

Kemetyl Kimya San.Tic.Ltd.Şti.

Küçükbakkalköy Mah. Dereboyu Cad. Brandium AVYM R5 Blok D:82 Ataşehir/İstanbul, Türkiye
Tel : +90 216 455 16 41-42 www.kemetyl.com.tr

Technical Data Sheet (TDS)

Shell Brake & Clutch Fluid DOT 3



Water tolerance	-40 °C	Sludging, sedimentation or crystallisation or stratification	none	None	FMVSS 116 SAE J1703		
		Flow time, secs	10 max	10 max			
	60 °C	appearance	As before test	As before test			
		Stratification	none	None			
		Sediment, % v/v	0.15 max	0.15 max			
Wet corrosion	Wt. change (mg/cm ²)	Tinned iron	± 0.2 max	± 0.2 max	FMVSS 116 SAE J1703		
		Steel	± 0.2 max	± 0.2 max			
		Aluminum	± 0.1 max	± 0.1 max			
		Cast iron	± 0.2 max	± 0.2 max			
		Brass	± 0.4 max	± 0.4 max			
		Copper	± 0.4 max	± 0.4 max			
	Pitting or etching		none	none			
	pH (after test)		7-11.5	7-11.5			
	Gelling at 23 ± 5 °C		none	none			
	Deposit		No crystalline	No crystalline			
	Sediment, %v/v		0.1 max	0.1 max			
	SBR rubber	Increase of diameter, mm		1.4 max		1.4 max	
			Hardness decrease (IRHD)			15 max	15 max
				Disintegration		none	none
	EDPM Rubber	Volume increase, %		10 max		10 max	
Hardness decrease (IRHD)				10 max	10 max		
			Disintegration	none	none		
Dry corrosion	Wt. change (mg/cm ²)	Tinned iron	± 0.2 max	± 0.2 max	SAE J1703		
		Steel	± 0.2 max	± 0.2 max			
		Aluminum	± 0.1 max	± 0.1 max			
		Cast iron	± 0.2 max	± 0.2 max			
		Brass	± 0.4 max	± 0.4 max			
		Copper	± 0.4 max	± 0.4 max			
	Pitting or etching		none	none			
	pH (after test)		7-11.5	7-11.5			
	Gelling at 23 ± 5 °C		none	none			
	Deposit		No crystalline	No crystalline			
	Sediment, %		0.1 max	0.1 max			
SBR rubber	Disintegration	none	none				

Kemetyl Kimya San.Tic.Ltd.Şti.

Küçükbakkalköy Mah. Dereboyu Cad. Brandium AVYM R5 Blok D:82 Ataşehir/İstanbul, Türkiye
Tel : +90 216 455 16 41-42 www.kemetyl.com.tr

Technical Data Sheet (TDS)

Shell Brake & Clutch Fluid DOT 3



	EPDM rubber	Disintegration	none	none	
Compatibility	-40 °C	Sludging sedimentation crystallisation or stratification	none	none	FMVSS 116 SAE J1703
		Stratification	none	none	
	60 °C	Sediment %v/v	0.05 max	0.05 max	
Resistance to oxidation		Pitting or etching (tin foil)	none	none	FMVSS 116 SAE J1703
		Gum deposit	Trace only	Trace only	
		Aluminum wt. change mg/cm ²	0.05 max	0.05 max	
		Cast iron wt. change mg/cm ²	0.3 max	0.3 max	

Storage and Handling

Brake fluids can be stored in bulk in mild steel tanks and drums, and a suitable gauge high density polyethylene container. Please note, it is not recommended Brake Fluids are stored in any low density polyethylene containers. The use a desiccant unit in the tank vent is recommended to prevent the absorption of moisture during storage.

Brake fluids do not present a significant health hazard when used under normal conditions however in line with good industrial practice the used appropriate personal protective equipment is recommended. See the product SDS for details.

Attention must be paid to the avoidance of contamination of brake fluids. Water will dramatically lower the boiling point of the fluid reducing safety margins. Contamination with mineral oil based products can result in the degradation of the seals in the system and could lead to a potential system failure.

Please follow vehicle manufacturer's recommendations when adding brake fluid.

Technical Data Sheet (TDS)

Shell Brake & Clutch Fluid DOT 3



Hazards and Safety

As with all chemical products, awareness and control of any potential hazards is of high importance. Please consult the material safety data sheet which is available detailing the hazards associated with this product.

The content of this Technical Data Sheet has been prepared by taking into consideration the relevant international standards and the information contained in specifications of vehicle and equipment manufacturers. This Technical Data Sheet and the statements in content cannot be interpreted as a guarantee commitment in respect of product specifications or usage in any application.

It is the consumer's responsibility to use this product in accordance with its ordinary purpose and comply with the applicable laws and regulations. Kemetyl Kimya San. Tic. Ltd. Şti. shall not be held responsible for any claims or damages arising out of abnormal use, improper usage, use for the wrongful purposes or risks and consequences by the nature of product structure.

This Technical Data Sheet shall be valid on issue date. Right to amend information provided in content of this Technical Data Sheet without prior notice is reserved.