S-OIL

S-OIL SEVEN

BRAKE FLUID DOT 4

Product Description

S-OIL Brake Fluid DOT 4 is highly efficient brake fluid combined with high purity glycols, glycol ethers, metal corrosion inhibitors and anti-oxidants.
Due to its high boiling point, S-OIL Brake Fluid DOT 4 does not deform at the operating temperature of the brake system and prevent vapor lock. In addition, it has excellent rust inhibiting ability to inhibit corrosion of metals and deterioration of rubber.
In particular, S-OIL Brake Fluid DOT 4 has superior thermal stability using advanced additives.

Applications

- ❍ Automobile manufacturing line
- ❍ All models with hydraulic brake system

Features and Potential Benefits

- ❍ High boiling point and wet boiling point (prevent Vapor lock)
- ❍ Superior metal corrosion protection
- ❍ Rubber compatibility (SBR, EPDM Rubber)
- ❍ Excellent low temperature stability and thermal stability

Performance Level

- ❍ Recommended for use where the following specifications are called for :
  KS M 2141 Type4, FMVSS 116 DOT-4, SAE J1704 (Standard), ISO 4925 Class4, JIS K 2233 Type4

Typical Properties

Test Items		Method	Unit	Properties
Density	20℃	FMVSS 116	g/cm^3	-
pH		[Same as above]	-	7.0 ~ 11.5
Boiling point			℃	Min. 230
Wet Boiling point			℃	Min. 155
Viscosity	-40℃		cSt	Max. 1800
	100℃		cSt	Min. 1.5
High-temperature stability			℃	Max. ±5
Chemical stability			℃	Max. ±5
Metal Corrosion	100℃, 120h			
[Metal]				
Tinned iron			mg/cm^2	Max. ±0.2

Steel				Max. ±0.2
Aluminum				Max. ±0.1
Cast iron				Max. ±0.2
Brass				Max. ±0.4
Copper		FMVSS 116		Max. ±0.4
Appearance		[Same as above]		No roughening and pitting
[Liquid]				
Appearance				No jelling
Sedimentation			vol%	Max. 0.1
pH				7.0 ~ 11.5
[Rubber cup (SBR)]				
Blisters or sloughing				No blisters and sloughing
Decrease in hardness			IRHD	Max. 15
Increase in base diameter			mm	Max. 1.4
Fluidity in low temperature				
Stratification, precipitate and crystallization	-40℃, 144h			Clear and no stratification
Bubble flow time			sec	Max. 10
Appearance on room temp.				Same as before test
Stratification, precipitate and crystallization	-50℃, 6h			Clear and no stratification
Bubble flow time			sec	Max. 35
Appearance on room temp.				Same as before test
Water tolerance				
Appearance	-40℃, 22h			Clear and homogeneous
Stratification & precipitate				No stratification and precipitate
Bubble flow time			sec	Max. 10
Stratification & precipitate	60℃, 22h			No stratification and precipitate
Sediments			vol%	Max. 0.15
Compatibility/Miscibility				
Appearance	-40℃, 22h			Clear and homogeneous

Sediments				Not allowed
Appearance	60℃, 22h			Clear and homogeneous
Stratification, precipitate			vol%	Max. 0.05
Resistance to oxidation		FMVSS 116		
Aluminum	70℃, 168h	[Same as above]	mg/cm^2	Max. ±0.05
Cast iron				Max. ±0.3
Appearance				No roughening and pitting
Effect on rubber				
[SBR]				
70℃, 70h				
Decrease in hardness			IRHD	Max. 10
Increase in base diameter			mm	0.15 ~ 1.4
Appearance				No blisters and sloughing
120℃, 70h				
Decrease in hardness			IRHD	Max. 15
Increase in base diameter			mm	0.15 ~ 1.4
Appearance				No blisters and sloughing
Stroking Test			Simulated service test is satisfied.	

Storage

- ❍ Seal when stored to prevent exposure to moisture and air.
- ❍ It should not be mixed with mineral oil / silicone brake fluid and mineral oil (engine oil, gasoline, kerosene, etc.).
- ❍ In case of contact with skin, wash immediately. If swallowed, immediately vomit and get medical prescription.
- ❍ Avoid fire. If it gets on the paint surface wash with water immediately as it may cause damage.

Disposal

- ❍ When disposing of used brake fluid, it must be disposed of at an authorized site or workplace, and not disposed of directly to sewer or soil.

Seoul, 04196, Korea

This lubricant used recommended and for the application for which it has been designed does not present any particular risk.

A material safety data sheet is obtainable via your commercial adviser.