

Transmission Fluids



Dexron® VI Synthetic ATF • MERCON® V ATF Synthetic Blend • DX III-H/M ATF • Chrysler ATF+4 Type 7176E Fluid Ford Type F Fluid • Amatran Powershift Fluids • Elixir Full Synthetic Fluid • Synthetic Manual Transmission GL-1 SAE 50

















AMALIE® Universal Synthetic ATF • AMALIE® Universal Synthetic CVT Fluid - See separate data sheet for more information

AMALIE® Dexron® VI Synthetic ATF is a newly designed, fully licensed (GM J-60156), next generation fluid approved for use in passenger car and light truck automatic transmissions that require a General Motors DEXRON®-VI or earlier generation DEXRON® fluid. It is formulated to provide improved oxidation stability, shear stability, friction durability and foam resistance compared to earlier generation DEXRON® fluids. This unique fluid is specially formulated to provide twice the service life of a DEXRON®-III (H) ATF and offers enhanced performance for both new and older transmissions. It is particularly recommended for use in new GM 6-speed automatic transmissions, and is fully backwards compatible with older GM automatic transmissions. Dexron® VI Synthetic ATF also may be used in industrial and mobile hydraulic systems operating over a wide temperature range. DEXRON®-VI Synthetic ATF meets or exceeds the requirements of: GM DEXRON®-VI, Denison Hydraulics HF-0, Vickers (Eaton) M-2950-S and I-286-S, and many others as shown in the performance applications table.

AMALIE® MERCON® V ATF Synthetic Blend is a newly designed formulation for use in new Ford vehicle transmissions and transaxles. Especially formulated to exhibit better low-temperature flow and better shear-stability, MERCON® V meets the new Ford performance requirements of vehicles specifying MERCON® V ATF. MERCON® V is recommended for use in all transmissions, hydraulic systems, and power steering units manufactured by American, European, Korean, Japanese and other manufactures from around the world specifying MERCON® V type transmission fluids.

AMALIE® DX III-H/M ATF is a premium multipurpose Automatic Transmission Fluid recommended for many transmission systems used throughout the world specifying Dexron®III H/MERCON® ATF as well as Allison C-3 and C-4 fluids. DX III-H/M ATF is recommended for use in all transmissions, hydraulic systems, and power steering units manufactured by American, European, Korean, Japanese and other manufactures from around the world specifying Dexron®III H/MERCON® and earlier Dexron®/MERCON® type transmission fluids.

AMALIE® *Chrysler ATF*+4 is recommended for Chrysler and DaimlerChrysler transmissions recommending ATF+4, ATF+3 or ATF+2, and covered by specifications MS-9602 and MS-7176E/D. This fluid is also recommended where Allison C-3 and C-4 fluids are required. This chemistry offers excellent low temperature properties and improved anti-shudder properties. Chrysler ATF+4 Fluid is recommended for use in all transmissions, hydraulic systems, and power steering units manufactured by American, European, Korean, Japanese and other manufactures from around the world specifying Chrysler ATF+4, ATF+3 or ATF+2 Type Fluids.

AMALIE® Ford Type F is an excellent, durable and economical product that may be used wherever a 2-P or M2C33-F fluid is recommended or required. This fluid meets Allison C-3 specifications and may be used in certain hydraulic systems that require anti-wear hydraulic oil. Ford Type F fluid is recommended for use in all transmissions, hydraulic systems, and power steering units manufactured by American, European, Korean, Japanese and other manufactures from around the world specifying Ford Type F fluid type transmission fluids.

AMALIE® Amatran Powershift Fluids meet or exceed Caterpillar's newest heavy duty TO-4 transmission requirements, providing greater extended transmission durability over the previous TO-2 fluid. In the market place this fluid is referred to as a "TDTO" fluid. The Amatran Powershift fluids may also be used as a diesel crankcase oil meeting the API CF and CF-2 performance classifications and wherever Allison C-4 fluid is recommended. Amatran is offered in three SAE grades: 10W, 30 and 50.

AMALIE° *Elixir Full Synthetic GL-5 75W-90* is the ultimate gear oil system meeting all OEM performance targets and provides maximum protection for all gear sets as well as helping to improve fuel economy while promoting longer gear life. **AMALIE** Elixir Full Synthetic GL-5 75W90 is a 100% synthetic base oil product coupled with a robust additive system and an improved viscosity modifier to give you a high viscosity index, low pour-point, synthetic gear oil providing reduced friction, fuel savings, better low temperature start-up protection and longer life than most conventional gear oils. This superior high performance gear oil is formulated to meet the requirements of the American Petroleum Institute's (API) Service Classification GL-5 and MT-1; MIL-PRF-2105E; SAE J-2360: Dana Corp. (including Eaton Axles); Eaton 750,000 mile warranty coverage and 500,000 mile oil drain intervals capabilities; General Electric D 50E9C; (P&H) 474; Mack Truck GO-J Plus; ArvinMeritor (including former Rockwell axels) and Rockwell International 0-76-E.

AMALIE® Synthetic Manual Transmission GL-1 SAE 50 oil is recommended for use in trucks and busses that have manual transmissions such as Eaton-Fuller/Road Ranger that require 750,000 mile long-drain GL-1 gear oils. This Full-Synthetic GL-1 50 is recommended for use in Eaton Division 121-R3 and Rockwell International 0-81 transmissions. This oil may be used wherever extended drain intervals of 500,000 miles are required or wherever GL-1 SAE 50 oils are recommended.

TYPICAL INSPECTION DATA

	API Gravity	Flash Point,C.	Viscosity, cSt @100C	Viscosity, cSt @40C	VI	Brookfield Viscosity	Pour Point,C
Dexron® VI Synthetic ATF							
5W-20	35.0	190	6.1	30.1	160	<15,000	-51
MERCON® V ATF Synthetic Blend							
0W-20	31.7	190	7.20	32.9	190	<13,000	-52
DX III-H/M ATF							
5W-20	32.5	190	7.10	34.6	170	<20,000	-49
Chrysler ATF +4							
5W-20	31.5	190	7.50	34.5	180	<15,000	-40
Type F Fluid							
10W-20	31.5	190	7.40	35.8	165	<50,000	-46
Amatran Powershift Fluid							
10	26.5	200	6.30	40.7	100	-	-27
30	28.7	220	10.90	95.0	100	-	-18
50	26.7	240	17.70	209.0	100	-	-9
Elixir Full Synthetic GL-5							
75W-90	27.5	210	17.00	130.0	142	<150,000	-45
Synthetic Manual Transmission GL-1							
SAE 50	23.0	220	18.00	133.0	151	-	-36

PERFORMANCE APPLICATION CHART

SPECIFICATIONS	Dexron® VI Synthetic ATF	MERCON® V ATF Synthetic Blend	DEX IIIH/ M	Chrysler ATF+4 Type 9602	Ford Type F Fluid	Amatran Powershift Fluids	Elixir Full Synthetic GL-5 75W-90	Synthetic Manual Transmission GL-1 SAE 50
Dexron®VI	√	-	-	-	-	-	-	-
Dexron®, Dexron® II, III H	√	-	√	√	-	-	-	-
MERCON® V	-	√	-	-	-	-	-	-
MERCON®	-	√	√	-	-	-	-	-
Chrysler 9602 (ATF+4)	-	-	-	√	-	-	-	-
Chrysler 7176D,E (ATF+3,ATF+2)	-	-	-	√	-	-	-	-
Allison C-4	-	-	-	√	-	-	-	-
Caterpillar TO-2	-	-	√	√	-	-	-	-
Caterpillar TO-4	-	-	-	-	-	√	-	-
GM Type A	√	-	√	√	-	√	-	-
Ford F	-	-	-	-	√	-	-	-
API GL-1	-	-	√	√	√	√	√	√
API GL-2/3/4/5	-	-	-	-	-	-	√	-
Mil-PRF-2105E	-	-	-	-	-	-	√	-
Mack GO-J/J PLUS	-	-	-	-	-	-	√	-
General Electric D 50E9C	-	-	-	-	-	-	√	-
Rockwell International O-76-E	-	-	-	-	-	-	√	-
Eaton (Fuller Division)	-	-	√	√	-	√	√	√
Eaton (Extended Warranty)*	-	-	-	-	-	-	√	V
Eaton (Extended Drain)*	-	-	-	-	-	-	√	√
Dana J-2360 (Spicer Division)	-	-	-	-	-	-	√	-
Denison HF-0/1/2	√	-	√	√	√	√	-	-
Voith G607	-	-	-	-	-	√	-	-
ZEDF TLML 09/11/14a	-	-	-	-	-	√	-	-
Power Steering Units **	√	√	√	√	√ √	√	-	-

Note: * Includes "Road Ranger Quality" Type
** Transmission fluids also applicable in power steering units; check owners' manual



AMALIE OIL COMPANY

Safety data sheet according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and GHS

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1 Identification of the substance/mixture and of the company/undertaking

- · 1.1 Product identifier
- · Trade name: Dexron® VI Synthetic ATF
- · Application of the substance / the preparation Lubricating oil
- · 1.3 Details of the supplier of the Safety Data Sheet
- · Supplier: AOCUSA

Made in U.S.A.

1.4 Emergency telephone number:

ChemTel Inc.

2 Hazards identification

- · 2.1 Classification of the substance or mixture
- · Classification according to Regulation (EC) No 1272/2008

The product is not classified according to the CLP regulation.

- · Classification according to Directive 67/548/EEC or Directive 1999/45/EC Not applicable.
- · Information concerning particular hazards for human and environment:

The product does not have to be labeled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

· Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

The classification is in accordance with the latest editions of international substances lists, and is supplemented by information from technical literature and by information provided by the company.

- · 2.2 Label elements
- Labeling according to Regulation (EC) No 1272/2008 N/A
- · Hazard pictograms N/A
- · Signal word N/A
- · Hazard statements N/A
- · Hazard description:
- · WHMIS-symbols: Not hazardous under WHMIS.

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Safety data sheet according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and GHS

Trade name: Dexron® VI Synthetic ATF

(Contd. of page 1)

· HMIS Long Term Health Hazard Substances

None of the ingredients is listed.

- · 2.3 Other hazards
- · Results of PBT and vPvB assessment
- · **PBT**: Not applicable.
- · vPvB: Not applicable.

3 Composition/information on ingredients

· 3.2 Mixtures

· Description: Mixture of substances listed below with nonhazardous additions.

· Dangerous components:		
CAS: 64742-54-7 EINECS: 265-157-1 Index number: 649-467-00-8	Distillates (petroleum), hydrotreated heavy paraffinic substance with a Community workplace exposure limit Carc. Cat. 2	51%
CAS: 64741-89-5 EINECS: 265-091-3 Index number: 649-455-00-2	Distillates (petroleum), solvent-refined light paraffinic	32%

· Additional information:

Note L: The classification as a carcinogen need not apply if it can be shown that the substance contains less than 3 % DMSO extract as measured by IP 346 'Determination of polycyclic aromatics in unused lubricating base oils and asphaltene free petroleum fractions - Dimethyl sulphoxide extraction refractive index method', Institute of Petroleum, London. This product meets these requirements.

4 First aid measures

- · 4.1 Description of first aid measures
- · General information: No special measures required.
- · After inhalation: Supply fresh air; consult doctor in case of complaints.
- · After skin contact:

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

· After eye contact:

Remove contact lenses if worn.

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· After swallowing:

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; call for medical help immediately.

· 4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

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Safety data sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and GHS

Trade name: Dexron® VI Synthetic ATF

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• 4.3 Indication of any immediate medical attention and special treatment needed No further relevant information available.

5 Firefighting measures

- · 5.1 Extinguishing media
- · Suitable extinguishing agents:

Carbon dioxide

Water haze or fog

Foam

Fire-extinguishing powder

- · For safety reasons unsuitable extinguishing agents: Water with full jet
- · 5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be released:

Carbon monoxide (CO)

Under certain fire conditions, traces of other toxic gases cannot be excluded.

- · 5.3 Advice for firefighters
- · Protective equipment:

Wear self-contained respiratory protective device.

Wear fully protective suit.

6 Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation

Wear protective equipment. Keep unprotected persons away.

· 6.2 Environmental precautions:

Do not allow to enter sewers/ surface or ground water.

Prevent from spreading (e.g. by damming-in or oil barriers).

· 6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Send for recovery or disposal in suitable receptacles.

Do not flush with water or aqueous cleansing agents

· 6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

- · 7.1 Precautions for safe handling Avoid the formation of oil haze.
- · Information about fire and explosion protection: No special measures required.
- · 7.2 Conditions for safe storage, including any incompatibilities
- · Storage:
- · Requirements to be met by storerooms and receptacles: No special requirements.

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Safety data sheet according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and GHS

Trade name: Dexron® VI Synthetic ATF

(Contd. of page 3)

· Information about storage in one common storage facility:

Store away from foodstuffs.

Store away from oxidizing agents.

- · Further information about storage conditions: Store in cool, dry conditions in well sealed receptacles.
- · 7.3 Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

- · Additional information about design of technical facilities: No further data; see item 7.
- · 8.1 Control parameters
- · Ingredients with limit values that require monitoring at the workplace:

64742-54-7 Distillates (petroleum), hydrotreated heavy paraffinic

PEL (USA) 5 mg/m³

TLV (USA) Short-term value: 10 mg/m³

Long-term value: 5 mg/m³

- · Additional information: The lists valid during the making were used as basis.
- · 8.2 Exposure controls
- · Personal protective equipment:
- · General protective and hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals.

Keep away from foodstuffs, beverages and feed.

Avoid contact with the eyes.

Respiratory protection:

Not necessary if room is well-ventilated.

Use suitable respiratory protective device in case of insufficient ventilation.

· Protection of hands:



Protective gloves

Oil resistant gloves

· Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Eye protection:



Safety glasses

Goggles recommended during refilling

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Safety data sheet according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and GHS

Trade name: Dexron® VI Synthetic ATF

(Contd. of page 4)

9 Physical and chemical properties					
9.1 Information on basic physical and chemical properties General Information					
· Appearance: Form:	Oily				
Colour:	Red coloured				
· Odour:	Characteristic				
· Odour threshold:	Not determined.				
· pH-value:	Not determined.				
· Change in condition					
Melting point/Melting range:	Undetermined.				
Boiling point/Boiling range:	Undetermined.				
· Flash point:	212 ℃ (414℉)				
· Flammability (solid, gaseous):	Not applicable.				
· Ignition temperature:					
Decomposition temperature:	Not determined.				
· Self-igniting:	Product is not self-igniting.				
· Danger of explosion:	Product does not present an explosion hazard.				
· Explosion limits:					
Lower:	Not determined.				
Upper:	Not determined.				
· Vapour pressure:	Not determined.				
· Density at 20℃:	0,85 g/cm³				
Relative density	Not determined.				
· Vapour density	Not determined.				
· Evaporation rate	Not determined.				
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.				
Partition coefficient (n-octanol/water): > 2,0 log POW (Estimate)					
•	7. > 2,0 log 1 GW (Estimate)				
· Viscosity:	160				
Viscosity Index: Kinematic at 40℃:	30 cSt (6 cSt @ 100℃)				
	30 031 (0 031 @ 100 0)				
Solvent content:	0.00/				
Organic solvents: · 9.2 Other information	0,0 % No further relevant information available.				
· 9.2 Other information	NO fulfiler relevant information available.				

Safety data sheet according to 1907/2006/EC (REACH).

1272/2008/EC (CLP), and GHS

Trade name: Dexron® VI Synthetic ATF

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10 Stability and reactivity

- · 10.1 Reactivity
- · 10.2 Chemical stability
- Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

- 10.3 Possibility of hazardous reactions Reacts with strong oxidizing agents.
- · 10.4 Conditions to avoid Store away from oxidizing agents.
- 10.5 Incompatible materials: No further relevant information available.
- · 10.6 Hazardous decomposition products:

Carbon monoxide and carbon dioxide

Possible in traces.

Sulphur oxides (SOx)

Nitrogen oxides (NOx)

11 Toxicological information

- · 11.1 Information on toxicological effects
- Acute toxicity:
- · LD/LC50 values relevant for classification:

LD50 >2000 mg/kg (rat)

Dermal LD50 >2000 mg/kg (rabbit)

- · Primary irritant effect:
- · on the skin: Slight irritant effect on skin and mucous membranes.
- · on the eye: Slight irritant effect on eyes.
- · Sensitization: Sensitizing effect by skin contact is possible by prolonged exposure.
- · Additional toxicological information:

The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version.

When used and handled according to specifications, the product does not have any harmful effects to our experience and the information provided to us.

12 Ecological information

- · 12.1 Toxicity
- · Aquatic toxicity: The material is harmful to the environment.
- · 12.2 Persistence and degradability Not easily biodegradable
- · 12.3 Bioaccumulative potential May be accumulated in organism
- · 12.4 Mobility in soil No further relevant information available.
- Additional ecological information:
- · General notes:

Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water Danger to drinking water if even small quantities leak into the ground.

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

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Trade name: Dexron® VI Synthetic ATF

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- · 12.5 Results of PBT and vPvB assessment
- · **PBT:** Not applicable.
- · **vPvB:** Not applicable.
- 12.6 Other adverse effects No further relevant information available.

13 Disposal considerations

- · 13.1 Waste treatment methods
- · Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system. Can be reused after reprocessing.

Delivery of waste oil to officially authorized collectors only.

- · Uncleaned packaging:
- · Recommendation: Disposal must be made according to official regulations.

14 Transport information		
· 14.1 UN-Number · DOT, ADN, IMDG, IATA	N/A	
 14.2 UN proper shipping name DOT, ADR, ADN, IMDG, IATA 	N/A	
· 14.3 Transport hazard class(es)		
· DOT, ADR, ADN, IMDG, IATA · Class	N/A	
· 14.4 Packing group · DOT, ADR, IMDG, IATA	N/A	
14.5 Environmental hazards: Marine pollutant:	No	
· 14.6 Special precautions for user	Not applicable.	
 14.7 Transport in bulk according to Anne MARPOL73/78 and the IBC Code 	x II of Not applicable.	
· UN "Model Regulation":	-	

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Safety data sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and GHS

Trade name: Dexron® VI Synthetic ATF

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15 Regulatory information

- · 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- · United States (USA)
- · SARA
- · Section 355 (extremely hazardous substances):

None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

· TSCA (Toxic Substances Control Act):

All ingredients are listed.

- · Proposition 65 (California):
- · Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

- · Carcinogenic Categories
- · EPA (Environmental Protection Agency)

None of the ingredients is listed.

· IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

· MAK (German Maximum Workplace Concentration)

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

- · Canada
- · Canadian Domestic Substances List (DSL)

All ingredients are listed.

· Canadian Ingredient Disclosure list (limit 0.1%)

None of the ingredients is listed.

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Trade name: Dexron® VI Synthetic ATF

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· Canadian Ingredient Disclosure list (limit 1%)

None of the ingredients is listed.

· 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Relevant phrases

H304 May be fatal if swallowed and enters airways.

R65 Harmful: may cause lung damage if swallowed.

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labeling of Chemicals

ACGIH: American Conference of Governmental Industrial Hygienists

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

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This document was authored and reviewed by the technical and scientific staff at ChemTel Inc. Descriptions, classifications and calculations are based upon data provided by manufacturer and augmented by published data in conjunction with expert analysis by degreed scientists.

