

United States Department of Labor
M S H A
Mine Safety and Health Administration

COMMERCIALLY AVAILABLE FIRE-RESISTANT HYDRAULIC FLUIDS
APPROVED BY MSHA UNDER CODE OF FEDERAL REGULATIONS
TITLE 30, PART 35

ORIGINATION OFFICE:

Mine Safety and Health Administration
Approval and Certification Center
Materials and Explosion Testing Branch
765 Technology Drive
Triadelphia, West Virginia 26059

Amoco Oil Company
200 East Randolph
Chicago, IL 60680

30-12-1
Amoco FR Fluid WO
Date Approved: 4/2/71
Invert Emulsion

BASF Wyandotte Corporation
P.O. Box 181
Parsippany, NJ 07054

30-42-1
WGF 200D
Date Approved: 2/7/74

30-42-2
WGF 200E
Date Approved: 5/22/75
Water-glycol

30-42-3
Plurasafe P-1000
Date Approved: 7/18/84
HWBF Concentrate

30-42-4
Plurasafe P-1000
Date Approved: 7/16/84
HWBF Concentrate

30-42-5
Plurasafe P-1200
Date Approved: 7/18/84
HWBF Concentrate

30-42-6
Plurasafe P1200/P1400
Date Approved: 7/18/84
HWBF Concentrate

30-42-7
Plurasafe P1210
Date Approved: 3/13/85
HWBF Concentrate

Century Lubricants Co.
2140 South 88th Street
Kansas City, KS 66111-8701

Century Lubricants Co.
2140 South 88th Street
Kansas City, KS 66111-8701
(Continued)

30-4-1
Hulsafe 600
Date Approved: 6/6/72
Invert Emulsion

30-4-2
Soluble Oil 40
Date Approved: 6/28/79
HWBF Concentrate

30-4-3 (**Withdrawn**)
Aquacent Heavy Hydraulic Fluid
Date Approved: 5/28/80
Invert Emulsion

30-4-4
Phosphate Ester NTP
Hydraulic Fluid
Date Approved: 5/28/80

30-4-5
Solcenic 2
Hydraulic Fluid
Date Approved: 5/28/80
HWBF Concentrate

30-4-6
Solcenic 3-A
Hydraulic Fluid
Date Approved: 5/28/80
HWBF Concentrate

30-4-7
Solcenic 4
Hydraulic Fluid
Date Approved: 6/9/80
HWBF Concentrate

30-4-8
Solcenic 7
Hydraulic Fluid
Date Approved: 5/28/80
HWBF Concentrate

Century Lubricants Co.
2140 South 88th Street
Kansas City, KS 66111-8701
(Continued)

30-4-9
Solcenic 3B
Longwall Fluid
Date Approved: 3/3/89
HWBF Concentrate

30-4-11
Solcenic 2B
Date Approved: 3/5/90
HWBF Concentrate

30-4-12
Solcenic 2B-W
Date Approved: 4/24/91
HWBF Concentrate

30-4-13
Solcenic 801E
Storage Fluid
Date Approved: 1/22/92

30-4-14
Solcenic HL
Date Approved: 5/5/92
HWBF Concentrate

30-4-15
Solcenic Ecosyn 2001
Date Approved: 10/18/94
HWBF Concentrate

30-4-16
Solcenic Ecosyn 2002
Date Approved: 10/18/94
HWBF Concentrate

30-4-17
Solcenic Ecosyn 2003
Date Approved: 10/18/94
HWBF Concentrate

30-4-18
Solcenic Ecosyn 3002
Date Approved 10/18/94
HWBF Concentrate

Century Lubricants Co.
2140 South 88th Street
Kansas City, KS 66111-8701
(Continued)

30-4-19
Solcenic Ecosyn 3010
Date Approved: 3/21/95
HWBF Concentrate

30-4-20
Solcenic 2B-DF
Date Approved: 4/14/95
HWBF Concentrate

30-4-21
Solcenic 3B-DF
Date Approved: 4/14/95
HWBF Concentrate

30-4-22
Ecosyn 2001-DF
Date Approved: 4/14/95
HWBF Concentrate

30-4-23
Solcenic Ecosyn 3050
Date Approved: 4/23/96
HWBF

30-4-24
Solcenic Ecosyn 3060
Date Approved: 4/25/96
HWBF Concentrate

30-4-25
Solcenic Ecosyn 2000 M
Date Approved: 9/2/97
HWBF Concentrate

30-4-27
Solcenic 2012
Date Approved: 11/20/98
HWBF Concentrate

35-A040002
Solcenic 2060
Date Approved: 08/06/04
Hydraulic Fluid Concentrate

Chempet Corporation
1750 Armitage Court
Addison, IL 60101

30-52-1
Chempet FRF 3300
Date Approved: 9/3/81
Invert Emulsion

Chrysler Corporation
5437 West Jefferson Avenue
Trenton, MI 48183

30-46-1
L-799
Date Approved: 2/28/75
Invert Emulsion

Cincinnati-Vulcan Company, Inc.
5353-5363 Spring Grove Avenue
Cincinnati, OH 45217

30-39-1
Vulcan FR Fluid
Date Approved: 11/29/72
Invert Emulsion

Cities Service Tech. & Computer Center
4500 South 129 East Avenue
Tulsa, OK 74102

30-16-1
Citgo Glycol FR 40XD
Date Approved: 1/16/73
Water-glycol

Conoco, Inc.
P.O. Box 2197
Houston, TX 77001

30-32-2
Conoco Hy-Chock Oil
Date Approved: 4/26/78
HWBF Concentrate

30-32-3
Conoco FR Hydraulic Fluid
Date Approved: 8/12/80
Invert Emulsion

Condat SA
BP16
38670 CHASSE SUR RHONE
FRANCE

35-A040001
Condat SH4 B Fire-
Resistant Hydraulic Fluid
Concentrate
Date Approved: 03/30/04

35-A150001
Condat D68 Synthetic
Polyol Ester Hydraulic Fluid
Date Approved: 02/04/15

D.A. Stuart Oil Company of America
7575 Plaza Court
Willowbrook, IL 60521

30-13-1
Stuart's Dasco IFR
Hydraulic Fluid
Date Approved: 10/2/61
Invert Emulsion

Last Updated 6/11/25

D.A. Stuart Oil Co. Of America
7575 Plaza Court
Willowbrook, IL 60521
(Continued)

30-13-2
Stuart's Dasco IFR
Hydraulic Fluid Base
Date Approved: 10/2/61
Invert Emulsion Base

30-13-3
Isosynth
VX 110 BF2
Date Approved: 6/4/93
HWBF
(Rescinded)

30-13-4
Hydraulid Fluid Concentra
Isosynth
VX 110 BF5
Date Approved: 7/28/98

30-13-5
Hydraulic Fluid Concentrate
Isosynth
VX 110 BF5
Date Approved: 05/04/00

35-A070001
Hydrocor GS 460NH
High Water Base Concentrate
Hydraulic Fluid
Date Approved: 08/10/07

Houghton International Inc.
Madison and Van Buren Avenues
Valley Forge, PA 19482

30-21-3
Houghto-Safe 5046W
Date Approved: 10/16/73
Invert Emulsion

30-21-5
Cosmolubric HF-130
Date Approved: 12/14/83
Synthetic Ester

30-21-6
Hydrolubric 141-M
Date Approved: 12/14/83
HWBF Concentrate

30-21-7
Hydrolubric 120-M
Date Approved: 12/14/83
HWBF Concentrate

30-21-8
Hydrolubric 120-B
Date Approved: 12/14/83
HWBF Concentrate

30-21-9
Cosmolubric B-230
Date Approved: 12/17/96
Natural Ester

30-21-10
Hydrolubric 123-M
Date Approved: 09/28/00
HWBF Concentrate

E/M Lubricants Inc.
P.O. Box 2200
Highway 52 North West
West Lafayette, IN 47906

30-47-1
RFR-150
Date Approved: 9/10/75
Invert Emulsion

Eraquimicos S.A.de C.V.
Ave. Del Acero 109
Parque Industrial Escobedo
Gral. Escobedo, N.L.
CP. 66062
MEXICO

35-A180001
Ecodrive 130
HWBCF
Date Approved: 10/26/18

Exxon Company USA
P.O. Box 2180
Houston, TX 77001

30-10-2
Firexx I
Date Approved: 11/27/72
Invert Emulsion

30-10-3
Firexx 95/5
Date Approved: 9/15/81
HWBF Concentrate

30-10-4
Firexx M 95/5

Far Best Inc.
1401 Greenleaf Avenue
Elk Grove Village, IL 60007

Fuchs Lubricants Co.
17050 Lathrop Avenue
Harvey, IL 60426

Date Approved: 2/10/88
WBF Concentrate

30-51-1
FR 40 M

Date Approved: 11/20/79
Invert Emulsion

35-A060002
Solcenic GM 20
Date Approved: 12/21/06
HWB Concentrate

35-A090003
Solcenic 801E
Date Approved: 05/27/09
Storage Fluid

35-A090004
Plantoflux FR 68 HOC
Date Approved: 07/21/09
Hydraulic Fluid

35-A100002
Date Approved: 06/09/12
Solcenic GM 15
HWB Hydraulic Fluid

35-A120005
Date Approved: 11/02/12
Solcenic GM/D
Hydraulic Fluid Concentrate

35-A130002
Date Approved: 9/26/13
Solcenic TS
HWBC Hydraulic Fluid

35-A130003
Date Approved: 12/3/13
Solcenic TS/D
HWBC Hydraulic Fluid

35-A140002
Date Approved: 04/17/14
Solcenic Eco Pro Glycerine
Base Hydraulic Storage Fluid

35-A140003
Date Approved: 05/15/14
Solcenic GM 20 NA
HWBC Hydraulic Fluid

35-A150002
Date Approved: 04/14/15
Synthetic FireProtect 46
(HFDU) Hydraulic Fluid

35-A230004
Date Approved: 10/20/23
PLANTOFLUX FR 68
HOC FIRE-RESISTANT
HYDRAULIC FLUID

35-A240002
Date Approved: 12/10/24
Solcenic Gen 21
High Water Hydraulic Fluid

Grenevia SA, FAMUR
Branch in Katowice
Ul. Armii Krajoweg 51
40-698 Katowice
POLAND

35-A240001
Date Approved: 10/2/24
Polikon TEST
Hydraulic Fluid (storage fluid)

Gulf Research and Development Company
P.O. Drawer 2038
Pittsburgh, PA 15230

30-7-7
Gulf FR Fluid LS 6914
Date Approved: 11/12/75
Invert Emulsion

Keenan Oil Company
2350 Seymour Avenue
Cincinnati, OH 45212

30-38-1
KFR-R1
Date Approved: 6/16/72
Invert Emulsion

30-38-2
KFR-RZ
Date Approved: 11/15/72
Invert Emulsion

30-38-3
KFR-RA
Date Approved: 11/15/72
Invert Emulsion

Kodiak, LLC

35-A210001
HYDRACLEAN HFA-S
Date Approved: 9/23/21
HWB Concentrate

35-A210002
HYDRACLEAN HFA-E
Date Approved: 9/23/21
HWB Concentrate

35-A230001
HYDRACLEAN SF
Date Approved: 9/18/23
Hydraulic Fluid (storage fluid)
35-A230002
HYDRACLEAN HFDu-68
Date Approved 9/26/23
Hydraulic Fluid (storage fluid)

Lubrication Engineers, Inc.
P.O. Box 16447
Wichita, KS 67216

30-44-2
6455 Monolec
Date Approved: 4/21/77
Invert Emulsion

Lubrizol Corp.
29400 Lakeland Blvd.
Wickliffe, Ohio 44092

30-54-2
Lubrizol 5662A, 5662B
Date Approved: 6/23/87
HWBF Concentrate

30-54-4
Microzol T30
Date Approved: 3/6/87
HWB Fluid

30-54-5
Microzol T46
Date Approved: 3/6/87
HWB Fluid

Lubrizol Corp.
29400 Lakeland Blvd.
Wickliffe, Ohio 44092
(Continued)

30-54-6
Microzol T70
Date Approved: 3/6/87
HWB Fluid

30-54-7

Last Updated 6/11/25

Lyondell Petrochemical Co.
Div. of Atlantic-Richfield Co.
12000 Lawndale
P.O. Box 2451
Houston, Texas 77252-2451

Mason Oil Company, Inc.
Box 8343
Pittsburgh, PA 15218

Metalworking Lubricants Company
6785 Telegraph Road
Suite 200
Birmingham, MI 48010

Mobil Oil Corporation
3225 Gallows Road
Fairfax, VA 22037

Nalco Chemical Company
Last Updated 6/11/25

Longwall Concentrate 5665
Date Approved: 11/25/88

30-32-3
Arco Duro FR-HD
Date Approved: 12/12/69
Invert Emulsion

30-5-2
Emulsiplex
Date Approved: 5/8/86
HWBF Concentrate

30-24-1
Masol FR Mine Fluid
Date Approved: 10/9/64
Invert Emulsion

30-48-1
Metsafe IFR-100
Date Approved: 9/10/75
Invert Emulsion

30-3-2
Mobilmet S-122
Date Approved: 1/21/81
Concentrate

30-3-3
Mobilmet S-127
Date Approved: 1/21/81
HWBF Concentrate

30-3-4
Pyrogard D
Date Approved: 3/17/83
Invert Emulsion

30-3-5
Hydrasol LW 18
Date Approved: 7/7/89
HWBF Concentrate

30-27-1

Metal Industries, Chemical
9165 Harbor Avenue
Chicago, IL 60617

Fyre-Safe W/O
Date Approved: 4/18/65
Invert Emulsion

National Petroleum Products
North Urania Avenue
Greensburg, PA 15601

NPP
30-55-1
Date Approved: 4/21/87
Invert Emulsion

NYCO
66 Avenue Des Champs Elysees
BP 414 - 75366
Paris Cedex 8
France

35-A130001
Hydraunycoil FH 4551
Date Approved: 11/07/13
Synthetic Ester HF

Pennzoil Company-Industrial Department
Reno Building
P.O. Box 808
21 Seneca Street
Oil City, PA 16301

30-19-2
Maxzol Soluble
Date Approved: 7/79
HWBF Concentrate

30-19-3
Maxmul FRP
Date Approved: 6/5/86
Invert Emulsion

Piedmont Chemical Company
P.O. Box 382
Bridgeville, PA 15017

30-45-1
Fire Resistant Hydraulic
Fluid 300
Date Approved: 2/14/75
Invert Emulsion

Quaker Chemical Corporation
Conshohocken, PA 19428

30-20-1
Quintolubric 958-50
Date Approved: 12/17/63
Invert Emulsion

30-20-2
Quintolubric 958-30
Date Approved: 11/19/65
Invert Emulsion

30-20-3

Quaker Chemical Corporation

Quintolubric 822-450
Date Approved: 12/23/71
Synthetic

30-20-4
Quintolubric 19-LWM
Date Approved: 1/16/91
HWBF

30-20-5 (**Retired**)
Quintolubric 814-01
Date Approved: 7/17/96
HWBF
(See 35-A080005, 35-A080006)

35-A060001-0
Quintolubric 818-02
Date Approved: 12/21/06
HWB Concentrate

35-A080001
Quintolubric 818-04
Date Approved: 1/25/08
HWBF Concentrate

35-A080002
Quintolubric 818-02ND
Date Approved: 04/24/08

35-A080003
Quintolubric 814-01ND
Date Approved: 06/16/08
HWBF Concentrate

35-A080004
Quintolubric 888-68
Date Approved: 7/23/08
Synthetic Organic Ester HF

35-A080005
Quintolubric 814-01
Date Approved: 10/15/08
HWBF Concentrate

Quaker Chemical Corporation
(continued)

35-A080006
Quintolubric 814-02
Date Approved: 10/15/08
HWBF Concentrate

35-A080007
Quintolubric 814-02ND
Date Approved: 11/5/08
HWBF Concentrate

35-A090001
Quintolubric 714-25
Date Approved: 03/09/09
Hydraulic Storage Fluid

35-A090002
Quintolubric 814-01-F
Date Approved: 04/03/2009
“HWBF Concentrate”

35-A090005
Quintolubric 818-02
Date Approved: 08/26/09
HWBF Concentrate

35-A090006
Quintolubric 818-02
Date Approved: 10/28/09
HWBF Concentrate

35-A090007
Quintolubric 806-LW
Date Approved: 11/24/09
HWBF Concentrate

35-A100001
Minetech Protection Fluid
Date Approved: 03/15/10
Glycerol Based Hydraulic
Storage Fluid

Quaker Chemical Corporation
(continued)

35-A120001
Quintolubric 818-02ND
Date Approved: 06/22/12

35-A120002

Quintolubric 818-02
HWBHF Concentrate
Date Approved: 07/22/12

35-A120003
Quintolubric 914 A
HWBHF Concentrate
Date Approved: 07/23/12

35-A120004
Quintolubric 814ND
HWBHF Concentrate
Date Approved: 08/08/12

35-A140001
Quintolubric 818-02 Quintoglow
HWBCHF Concentrate
Date Approved: 03/31/14

35-A160002
MINETECH PROTECTION
FLUID PTZ
Glycerol BHF
Date Approved: 5/31/16

35-A190001
Quintolubric ShieldSafe ME
HWBCHF Concentrate
Date Approved 1/14/19

35-A190002
Quintolubric ShieldSafe FS
HWBCHF Concentrate
Date Approved 1/14/19

Shell P & T Depot
Shell Technology Center Houston
3333 Highway 6 South
Houston, TX 77082

35-A130001
Shell Iru Fluid DU 68
Data Approved: 01/31/14
Synthetic Ester HF

35-A140004
Shell Naturelle HF-E 68
Name changed to now include
Shell Naturelle Hydraulic
Fluids S2 68

Singer and Hersch
P.O. Box 19
Sasolburg 9570
South Africa

Southwest Grease and Oil Company
1400 South Harrison
Olathe, KS 66061

Suntech, Inc.
P.O. Box 1135
Marcus Hook, PA 19061

Standard Oil Co.
200 Public Square
Cleveland, Ohio 44114-2375

Texaco, Inc.
Research and Technical Department
P.O. Box 509
Beacon, NY 12508
Transferred to Equilon
Transferred to SOPUS Products
(Shell Oil Products US)

Last Updated 6/11/25

Shell Fire Resistant Hydraulic
Fluid S2 DU 68
Data Approved: 08/25/14
Synthetic Ester HF

30-53-1
Senfluid HF7
Date Approved: 6/16/83
HWBF Concentrate

30-35-1
Code 18306
Date Approved: 3/13/72
Invert Emulsion

30-35-2
Fire Resistant Hydraulic
Code 8X120
Date Approved: 9/29/80
Invert Emulsion

30-8-8
Sun Sol (X996-216)
Date Approved: 8/6/81
HWBF Concentrate

30-8-9
Sunsafe F (X196-143)
Date Approved: 10/28/81
Invert Emulsion

30-54-3
Staysol 19
Date Approved: 11/21/86
HWBF Concentrate

30-9-2
1670 LWM/786 Sol. Oil D
Date Approved: 12/4/86
HWBF Concentrate

30-9-3

Texas Refinery Corporation
One Refinery Place
Fort Worth, TX 76101

Tower Oil and Tech. Company
4300 Tripp Avenue
Chicago, IL 60632

Trueblood Oil Co., Inc.
11792 N US Hwy 41
Farmersburg, IN 476850

Union Carbide Corporation
Technical Center
Saw Mill River Road
Route 100C
Tarrytown, NY 10591

Union Oil Company of California
Last Updated 6/11/25

1666 LWM
Date Approved: 6/26/89
Aquashield 18

30-9-4
LMW Shield Storage
Date Approved: 6/6/96

30-54-2
LWM Concentrate 19
Date Approved: 6/23/87
HWBF Concentrate

30-34-1
TRC Fire Resistant HD
Date Approved: 7/13/71
Invert Emulsion

30-50-1
Safoil No. 22
Date Approved: 10/22/79
Invert Emulsion

30-50-2
Safoil No. 33
Date Approved: 10/22/79
Invert Emulsion

35-A160001-0
Tru Elite FR 46
Date Approved: 05/15/16
SHF

30-15-1
UCON Hydrolube CC-732
Date Approved: 12/18/61
Water-glycol

30-15-2
UCON Hydrolube CC-760
Date Approved: 12/18/61
Water-glycol

30-14-1

1650 E. Golf Road
Schaumburg, IL 60196

Union FR Fluid
Date Approved: 6/8/71
Invert Emulsion

Unocal Refining & Marketing Division
Unocal Corporation
1650 East Golf Road
Schaumburg, IL 60196-1088

30-10-3
Soluble Oil MS
Date Approved: 9/15/81
HWBF Concentrate