

United States Department of Labor

M S H A

Mine Safety and Health Administration

COMMERCIALY 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

Last Updated 09/17/12

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

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

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

30-4-3 (**Withdrawn**)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

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

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

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

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 09/17/12

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

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

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
Date Approved: 2/10/88
WBF Concentrate

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

30-51-1
FR 40 M
Date Approved: 11/20/79
Invert Emulsion

Last Updated 09/17/12

Fuchs Lubricants Co.
17050 Lathrop Avenue
Harvey, IL 60426

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
Solcenic GM 15
HWB Hydraulic 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

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

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

Last Updated 09/17/12

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
Longwall Concentrate 5665
Date Approved: 11/25/88

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

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

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

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

Metalworking Lubricants Company
6785 Telegraph Road
Suite 200
Birmingham, MI 48010
Last Updated 09/17/12

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

Mobil Oil Corporation
3225 Gallows Road
Fairfax, VA 22037

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

Nalco Chemical Company
Metal Industries, Chemical
9165 Harbor Avenue
Chicago, IL 60617

30-27-1
Fyre-Safe W/O
Date Approved: 4/18/65
Invert Emulsion

National Petroleum Products
North Urania Avenue
Greensburg, PA 15601

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

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

Last Updated 09/17/12

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

Quaker Chemical Corporation

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

Last Updated 09/17/12

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

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

Quaker Chemical Corporation
(continued)

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
Glycerol Based Hydraulic Fluid
Date Approved: 03/15/10

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

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

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

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

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

Suntech, Inc.
Last Updated 09/17/12

30-8-8

P.O. Box 1135
Marcus Hook, PA 19061

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

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

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

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

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

30-9-3
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

Texas Refinery Corporation
One Refinery Place
Fort Worth, TX 76101

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

Tower Oil and Tech. Company
4300 Tripp Avenue
Chicago, IL 60632
Last Updated 09/17/12

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

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

Union Oil Company of California
1650 E. Golf Road
Schaumburg, IL 60196

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

Invert Emulsion

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

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

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