

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

ORINATION OFFICE:

Mine Safety and Health Administration
Approval and Certification Center
Materials and Explosion Testing Branch
Box 251, Industrial Park Road
Triadelphia, West Virginia 26059

Last Updated 08/15/08

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
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

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 08/15/08

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
Hydraulic 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

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

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

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 08/15/08

Fuchs Lubricants Co.
17050 Lathrop Avenue
Harvey, IL 60426

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

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

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

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

30-54-7
Longwall Concentrate 5665
Date Approved: 11/25/88

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

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

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

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

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

Last Updated 08/15/08

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

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

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

National Petroleum Products
North Urania Avenue
Greensburg, PA 15601

Quaker Chemical Corporation
Conshohocken, PA 19428

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

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

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

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

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

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

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
(continued)

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

30-20-5
Quintolubric 814-01
Date Approved: 7/17/96
HWBF

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

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

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

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

Last Updated 08/15/08

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

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

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

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

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

30-14-1
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

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