

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 09/15/09

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

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

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 09/15/09

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

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

Last Updated 09/15/09

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

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

Last Updated 09/15/09

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

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

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

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

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

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

National Petroleum Products  
North Urania Avenue  
Greensburg, PA 15601

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

Quaker Chemical Corporation  
Conshohocken, PA 19428  
Last Updated 09/15/09

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

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

30-20-1  
Quintolubric 958-50

Quaker Chemical Corporation  
(continued)

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

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

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

35-A090002  
Quintolubric 814-01-F  
Date Approved: 04/03/2009  
Hydraulic Storage Fluid

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

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

Last Updated 09/15/09

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  
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