

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 12/17/12

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30-4-3 (**Withdrawn**)  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 12/17/12

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 12/17/12

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

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

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

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

Last Updated 12/17/12

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

Invert Emulsion

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  
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

Last Updated 12/17/12

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

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

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

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

Last Updated 12/17/12

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

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

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  
Last Updated 12/17/12

30-34-1  
TRC Fire Resistant HD

Fort Worth, TX 76101

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