

MATERIAL SAFETY DATA SHEET

IDEAL® FG 2 GREASE

MSDS No.
APPC 214

Rev. Date
05/18/94

LYONDELL LUBRICANTS
12000 LAWDALE AVENUE
P.O. BOX 2451
HOUSTON, TEXAS 77252-2451

IMPORTANT: Read this MSDS before handling and disposing of this product and pass this information on to employees, customers, and users of this product.

This product is covered by the OSHA Hazard Communication Rule and this document has been prepared in accord with the MSDS requirements of the rule.

I. General

Trade Name	IDEAL FG 2 GREASE (FORMERLY ARCOWHITE 2 GREASE)	Telephone Numbers
Other Names	CALCIUM SALT SOAP GREASE LUBRICANT COMPLIES WITH 21 CFR 178.3570 AND MEETS N.L.G.I. GRADE 2 USDA AUTHORIZED "H-1" LUBRICANT FOR INCIDENTAL FOOD CONTACT	EMERGENCY 800/424-9300 CHEMTREC 800/313-7645 HOT LINE CUSTOMER SERVICE 800/525-4692 MSDS/INFO
Chemical Family	PETROLEUM HYDROCARBONS AND ADDITIVES	DOT Hazardous Materials Proper Shipping Name NOT A D.O.T. "HAZARDOUS MATERIAL"
Generic Name	CALCIUM SALT SOAP/PETROLEUM GREASE	DOT Hazard Class NOT REGULATED
CAS No.	SEE SECTION IX	Company ID No. 1848118481
		UN/NA ID No. NOT REGULATED

II. CAUTION Summary of Hazards

**MAY CAUSE MILD SKIN IRRITATION AND INFLAMMATION FOLLOWING EXTENDED CONTACT!
AVOID PROLONGED AND/OR REPEATED SKIN CONTACT.
WASH THOROUGHLY AFTER HANDLING.**

FOR SPECIAL INSTRUCTIONS FOR INJURIES RESULTING FROM HIGH-PRESSURE SKIN INJECTION, SEE SECTION VII. - "EMERGENCY MEDICAL TREATMENT PROCEDURES" AND SECTION XI. - "HANDLING, STORAGE, AND DECONTAMINATION PROCEDURES".

III. Fire and Explosion

Flash Point (Method) AP 320°F (D-92) SEE "FIRE & EXPLOSION HAZARDS"	Autoignition Temperature (Method) AP 650°F (EST.) BASED UPON "WHITE MINERAL OIL"	Flammable Limits (% Vol. in Air) Lower N/AP Upper N/AP
--	---	--

Fire and Explosion Hazards SLIGHTLY COMBUSTIBLE! OSHA/NFPA CLASS-IIIB COMBUSTIBLE LIQUID. WHEN HEATED ABOVE ITS FLASH POINT, THIS MATERIAL WILL RELEASE FLAMMABLE VAPORS WHICH CAN BURN IN THE OPEN OR BE EXPLOSIVE IN CONFINED SPACES IF EXPOSED TO AN IGNITION SOURCE. MISTS OR SPRAYS MAY BE FLAMMABLE AT TEMPERATURES BELOW THE NORMAL FLASH POINT. KEEP AWAY FROM EXTREME HEAT AND OPEN FLAME.

Extinguishing Media DRY CHEMICAL CO2 FOAM FOAM AND WATER FOG ARE EFFECTIVE BUT MAY CAUSE FROTHING.	WATERSPRAY INERT GAS - HALON/N2	HAZARD RATING: 4 - Extreme 3 - High 2 - Moderate 1 - Slight 0 - Insignificant <div style="text-align: center;"> </div> <p>* Chronic Health Hazard - See Section IV.</p>
---	---	---

Special Firefighting Procedures FOR FIRES INVOLVING THIS MATERIAL, DO NOT ENTER ANY ENCLOSED OR CONFINED FIRE SPACE WITHOUT PROPER PROTECTIVE EQUIPMENT. THIS MAY INCLUDE SELF-CONTAINED BREATHING APPARATUS TO PROTECT AGAINST THE HAZARDOUS EFFECTS OF COMBUSTION PRODUCTS AND OXYGEN DEFICIENCIES. COOL TANKS AND CONTAINERS EXPOSED TO FIRE WITH WATER. IMPROPER USE OF WATER AND EXTINGUISHING MEDIA CONTAINING WATER MAY CAUSE FROTHING WHICH CAN SPREAD THE FIRE OVER A LARGER AREA.

IV. Health Hazards

Summary of Acute Hazards NOT EXPECTED TO PRESENT A SIGNIFICANT HEALTH HAZARD UPON SHORT-TERM EXPOSURE.

ROUTE OF EXPOSURE	SIGNS AND SYMPTOMS	Primary Route(s)
Inhalation	NO SIGNIFICANT ADVERSE HEALTH EFFECTS ARE EXPECTED TO OCCUR UPON SHORT-TERM EXPOSURE.	<input type="checkbox"/>
Eye Contact	TESTS ON SIMILAR MATERIALS SUGGEST THAT NO IRRITATION IS EXPECTED FROM SHORT-TERM EXPOSURE.	<input type="checkbox"/>
Skin Absorption	TESTS ON SIMILAR MATERIALS SUGGEST THAT NO SIGNIFICANT ADVERSE HEALTH EFFECTS ARE EXPECTED TO OCCUR UPON SHORT-TERM EXPOSURE.	<input type="checkbox"/>
Skin Irritation	TESTS ON SIMILAR MATERIALS INDICATE THAT NO IRRITATION IS EXPECTED FROM SHORT-TERM EXPOSURE.	<input checked="" type="checkbox"/>
Ingestion	SWALLOWING THIS MATERIAL MAY CAUSE GASTROINTESTINAL DISTURBANCES SUCH AS NAUSEA, VOMITING, AND DIARRHEA.	<input type="checkbox"/>

Summary of Chronic Hazards and Special Health Effects PROLONGED AND/OR REPEATED SKIN CONTACT WITH THIS MATERIAL MAY PRODUCE SKIN IRRITATION AND INFLAMMATION.
 SEE SECTION XI.
 PERSONNEL WITH PRE-EXISTING SKIN DISORDERS SHOULD AVOID CONTACT WITH THIS PRODUCT.

V. Protective Equipment and Other Control Measures

Respiratory	NOT APPLICABLE.
Eye	SAFETY GLASSES SHOULD BE ADEQUATE PROTECTION UNDER NORMAL CONDITIONS OF USE. IF POTENTIAL EXPOSURE TO HIGH-PRESSURE MATERIAL EXISTS, THEN A FACE SHIELD AND/OR CHEMICAL GOGGLES ARE ALSO RECOMMENDED. (SEE SECTION XI.)
Skin	AVOID PROLONGED AND/OR REPEATED SKIN CONTACT, OR WEAR IMPERVIOUS PROTECTIVE CLOTHING. WHEN LEAVING WORK, WASH HANDS/EXPOSED SKIN WITH SOAP AND WATER. (SEE "OTHER HYGIENIC & WORK PRACTICES".)
Engineering Controls	NONE IS NEEDED UNDER ANTICIPATED CONDITIONS OF USE.
Other Hygienic and Work Practices	WASH HANDS WITH PLENTY OF SOAP AND WATER BEFORE EATING, DRINKING, SMOKING, OR USE OF TOILET FACILITIES. DO NOT USE GASOLINE, SOLVENTS, KEROSENE, OR HARSH ABRASIVE SKIN CLEANERS FOR WASHING EXPOSED SKIN AREAS. TAKE A SHOWER AFTER WORK IF GENERAL CONTACT OCCURS. REMOVE OIL-SOAKED CLOTHING AND LAUNDER BEFORE REUSE. LAUNDER OR DISCARD CONTAMINATED LEATHER GLOVES AND SHOES.

VI. Occupational Exposure Limits

Substance	Source	Date	Type	Value/Units	Time
NOT APPLICABLE - SEE SECTION XI.					

VII. Emergency and First Aid

Inhalation	NOT APPLICABLE.
Eye Contact	FLUSH EYES WITH CLEAN, LOW-PRESSURE WATER FOR AT LEAST 15 MINUTES, OCCASIONALLY LIFTING THE EYELIDS. IF PAIN OR REDNESS PERSISTS AFTER FLUSHING, OBTAIN MEDICAL ATTENTION.
Skin Contact	REMOVE BY WIPING; THEN WASH SKIN THOROUGHLY WITH PLENTY OF SOAP AND WATER. REMOVE CONTAMINATED CLOTHING AND THOROUGHLY CLEAN BEFORE REUSE. DISCARD CONTAMINATED LEATHER GLOVES AND SHOES.
Ingestion	INGESTION IS UNLIKELY. HOWEVER, IF MORE THAN A HALF-CUP FULL OF THIS MATERIAL IS SWALLOWED, GIVE QUANTITIES OF WATER, INDUCE VOMITING, AND PROMPTLY OBTAIN MEDICAL ATTENTION.
Emergency Medical Treatment Procedures	HIGH-PRESSURE INJECTIONS IN UNDERLYING TISSUE: IMMEDIATE TREATMENT SHOULD INCLUDE EXTENSIVE INCISION, DEBRIDEMENT, AND SALINE IRRIGATION. INADEQUATE TREATMENT MAY RESULT IN TISSUE ISCHEMIA AND GANGRENE. EARLY SYMPTOMS MAY BE MINIMAL. (SEE SECTION XI.)

VIII. Spill and Disposal

Precautions if Material is Spilled or Released	CONTAIN LARGE SPILLS AND KEEP IT OUT OF ALL WATER BODIES, IF POSSIBLE. SAFELY STOP THE FLOW OF SPILL. HOT PRODUCT WILL SOLIDIFY UPON COOLING AND CAN BE SHOVELLED INTO PROPER CONTAINERS SUITABLE FOR REUSE OR DISPOSAL. IN URBAN AREAS CLEANUP AS SOON AS POSSIBLE. IN NATURAL ENVIRONMENTS, CLEANUP ON ADVICE OF ECOLOGIST TO MINIMIZE PHYSICAL HABITAT DAMAGE. EQUIP CLEANUP CREWS WITH PROPER PROTECTIVE EQUIPMENT AND COMPLY WITH ALL APPLICABLE LAWS. SPILLS MAY NEED TO BE REPORTED TO NATIONAL RESPONSE CENTER (800/424-8802). TEST RESULTS SHOW THAT INCIDENTAL LEAKAGE OR SPILLS CONSISTENT WITH REGULAR USE (35 LBS OR LESS) PRESENT NO HAZARD TO THE ENVIRONMENT.
Waste Disposal Methods	MAXIMIZE PRODUCT RECOVERY FOR REUSE OR RECYCLING. ABSORB RESIDUE WITH ANY DRY SAND, CLAY, OR INERT MATERIAL AND SHOVEL UP FOR DISPOSAL. CONDITIONS OF USE MAY CAUSE THIS MATERIAL TO BECOME A "HAZARDOUS WASTE" AS DEFINED BY STATE AND FEDERAL LAWS. USE APPROVED TREATMENT, TRANSPORTERS, AND DISPOSAL SITES IN COMPLIANCE WITH ALL APPLICABLE LAWS. POTENTIAL DISPOSAL METHODS INCLUDE INCINERATION AND LAND DISPOSAL, IF PERMITTED.

IX. Components

This may not be a complete list of components

Component Name	CAS No.	Carcinogen##		Composition amount (Wt.) (See Qualification on Page 4)
WHITE MINERAL OIL (PETROLEUM)	8042-47-5*	N/AP	AP	75 TO 85 PERCENT
12-HYDROXYSTEARIC ACID, CALCIUM SOAP	3159-62-4	N/AP	AP	5 TO 15 PERCENT
POLYISOBUTYLENE	9003-27-4	N/AP	AP	5 TO 10 PERCENT
ADDITIVE MIXTURE: RUST, OXIDATION, AND CORROSION INHIBITORS		N/AP	LT	1 PERCENT

##Listed By: 1 = NTP, 2 = IARC, 3 = OSHA, 4 = Other

Compositions given are typical values, not specifications.

X. Physical and Chemical Data

Boiling Point GT 600° F	Viscosity Units, Temp. (Method) AP 70 SUS AT 100° F (D2161)		Dry Point N/AP
Freezing Point N/AP	Vapor Pressure (MM HG AT 70° F) LT 0.1		Volatile Characteristics NEGLIGIBLE
Specific Gravity (H₂O = 1 at 39.2° F) AP 0.88	Vapor Sp.Gr. (Air = 1.0 at 60° -90° F) GT 10	Solubility in Water NEGLIGIBLE	pH N/AP
Hazardous Polymerization NOT EXPECTED TO OCCUR	Other Chemical Reactivity N/P		Stability STABLE

Other Physical and Chemical Properties VISCOSITY SHOWN ABOVE IS FOR THE OIL COMPONENT ONLY. VISCOSITY INDEX = AP 100; WORKED PENETRATION = AP 280 (ASTM D-217); DROPPING POINT = GT 280° F.(D-566).

Appearance and Odor OPAQUE, NEARLY COLORLESS TO WHITE-COLORED, SMOOTH-TEXTURED, SEMI-SOLID; PRACTICALLY ODORLESS.

Conditions to Avoid EXTREME HEAT AND OPEN FLAME.

Materials to Avoid STRONG ACIDS, ALKALIES, AND OXIDIZERS SUCH AS LIQUID CHLORINE AND OXYGEN.

Hazardous Decomposition Products BURNING OR EXCESSIVE HEATING MAY PRODUCE CARBON MONOXIDE, CARBON DIOXIDE AND TRACE OXIDES AND/OR COMPOUNDS OF CALCIUM.

XI. Additional Precautions

Handling, Storage, and Decontamination Procedures HIGH-PRESSURE SKIN INJECTION INJURIES: HYDROCARBONS WHICH ARE HANDLED IN HIGH-PRESSURE GREASE GUNS OR HYDRAULIC LINES MAY BE ACCIDENTALLY INJECTED INTO THE EYES, SKIN, AND/OR UNDERLYING TISSUE. HYDROCARBONS INJECTED INTO UNDERLYING TISSUES ARE NOT READILY REMOVED BY BODY FLUIDS AND CAN CAUSE PAIN, RAPID SWELLING, CHEMICAL IRRITATION AND INFECTION. WORKERS MUST BE TRAINED IN THE DANGER OF THIS TYPE OF INJURY AND SHOULD SEEK SPECIAL MEDICAL ATTENTION IF INJECTED ACCIDENTALLY.

General Comments NO SPECIAL EXPOSURE STANDARDS/CONTROL LIMITS HAVE BEEN ESTABLISHED FOR THIS MATERIAL.

SOME OF THE INFORMATION PRESENTED AND CONCLUSIONS DRAWN HEREIN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE MIXTURE ITSELF.

-- Note -- Qualifications: EQ = Equal AP = Approximately N/P = No Applicable Information Found
 LT = Less Than UK = Unknown N/AP = Not Applicable
 GT = Greater Than TR = Trace N/DA = No Data Available

Disclaimer of Liability
 The information in this MSDS was obtained from sources which we believe are reliable. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS.
 The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.
 This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

XII.**Regulatory Information****SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1988 (SARA), TITLE III**

SECTION 311/312 HAZARD CATEGORIES
DELAYED (CHRONIC) HEALTH HAZARD

SECTION 313

NO CHEMICALS IN THIS PRODUCT EXCEED THE DE MINIMUS REPORTING LEVEL ESTABLISHED BY SARA
TITLE III, SECTION 313 AND 40 CFR 372.

TOXIC SUBSTANCES CONTROL ACT (TSCA)

ALL COMPONENTS OF THIS PRODUCT ARE LISTED ON THE TSCA INVENTORY.

COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT (CERCLA)

NO CHEMICALS IN THIS PRODUCT ARE SUBJECT TO THE REPORTING REQUIREMENTS OF CERCLA.

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1988 - PROPOSITION 65

BASED ON INFORMATION CURRENTLY AVAILABLE, THIS PRODUCT IS NOT KNOWN TO CONTAIN ANY CHEMICALS
CURRENTLY LISTED AS CARCINOGENS OR REPRODUCTIVE TOXINS UNDER CALIFORNIA PROPOSITION 65 AT LEVELS
WHICH WOULD BE SUBJECT TO THE PROPOSITION. IF YOU REFORMULATE OR FURTHER PROCESS THIS PRODUCT,
YOU SHOULD FURTHER EVALUATE THIS PRODUCT BASED UPON SUCH REFORMULATION OR PROCESSING, AS WELL AS
UPON ITS FINAL COMPOSITION AND USE.

III

Label Information

Manufacturer: LYONDELL LUBRICANTS
12000 LAWDALE AVENUE
P.O. BOX 2451
HOUSTON, TEXAS 77252-2451

Telephone Numbers
EMERGENCY
800/424-9300 CHEMTREC
800/313-7645 HOT LINE
CUSTOMER SERVICE
800/525-4692 MSDS/INFO

Use Statement: FOR INDUSTRIAL USE ONLY

Signal Word: CAUTION

Physical Hazards:
SLIPPING HAZARD ON SMOOTH, HARD WALKING AREA.

Health Hazards:
SKIN CONTACT HAZARD
SKIN IRRITATION FOLLOWING EXTENDED CONTACT
HIGH-PRESSURE INJECTION CAUSES TISSUE DAMAGE

Precautionary Measures: REMOVE SPILLAGE IMMEDIATELY FROM HARD, SMOOTH WALKING AREAS.
AVOID OXIDIZING AGENTS.
AVOID CONTACT WITH EYES, SKIN, AND CLOTHING.
USE ONLY WITH ADEQUATE VENTILATION/PERSONAL PROTECTION.
AVOID HIGH-PRESSURE HYDRAULIC SYSTEM LEAKS.
WASH THOROUGHLY AFTER HANDLING.
PREVENT CONTACT WITH FOOD, CHEWING, OR SMOKING MATERIALS.
DO NOT TAKE INTERNALLY.

DOT Information: UN/NA ID Number- NOT REGULATED
Hazard Class- NOT REGULATED
Proper Shipping- NOT A D.O.T. "HAZARDOUS MATERIAL"

Instructions: DRY CHEMICAL WATERSPRAY
In case of fire, use- CO2 INERT GAS - HALON/N2
FOAM

First Aid -Inhalation NOT APPLICABLE.

-Eye Contact FLUSH EYES WITH CLEAN, LOW-PRESSURE WATER FOR AT LEAST 15 MINUTES, OCCASIONALLY LIFTING THE EYELIDS. IF PAIN OR REDNESS PERSISTS AFTER FLUSHING, OBTAIN MEDICAL ATTENTION.
-Skin Contact REMOVE BY WIPING; THEN WASH SKIN THOROUGHLY WITH PLENTY OF SOAP AND WATER. REMOVE CONTAMINATED CLOTHING AND THOROUGHLY CLEAN BEFORE REUSE. DISCARD CONTAMINATED LEATHER GLOVES AND SHOES.
-Ingestion INGESTION IS UNLIKELY. HOWEVER, IF MORE THAN A HALF-CUP FULL OF THIS MATERIAL IS SWALLOWED, GIVE QUANTITIES OF WATER, INDUCE VOMITING, AND PROMPTLY OBTAIN MEDICAL ATTENTION.

In case of spill, CONTAIN LARGE SPILLS AND KEEP IT OUT OF ALL WATER BODIES, IF POSSIBLE. SAFELY STOP THE FLOW OF SPILL. HOT PRODUCT WILL SOLIDIFY UPON COOLING AND CAN BE SHOVELED INTO PROPER CONTAINERS SUITABLE FOR REUSE OR DISPOSAL. IN URBAN AREAS CLEANUP AS SOON AS POSSIBLE. IN NATURAL ENVIRONMENTS, CLEANUP ON ADVICE OF ECOLOGIST TO MINIMIZE PHYSICAL HABITAT DAMAGE. EQUIP CLEANUP CREWS WITH PROPER PROTECTIVE EQUIPMENT AND COMPLY WITH ALL APPLICABLE LAWS. SPILLS MAY NEED TO BE REPORTED TO NATIONAL RESPONSE CENTER (800/424-8802). TEST RESULTS SHOW THAT INCIDENTAL LEAKAGE OR SPILLS CONSISTENT WITH REGULAR USE (35 LBS OR LESS) PRESENT NO HAZARD TO THE ENVIRONMENT.

Protective Equipment
-Respiratory NOT APPLICABLE.

-Eye SAFETY GLASSES SHOULD BE ADEQUATE PROTECTION UNDER NORMAL CONDITIONS OF USE. IF POTENTIAL EXPOSURE TO HIGH-PRESSURE MATERIAL EXISTS, THEN A FACE
-Skin AVOID PROLONGED AND/OR REPEATED SKIN CONTACT, OR WEAR IMPERVIOUS PROTECTIVE CLOTHING. WHEN LEAVING WORK, WASH HANDS/EXPOSED SKIN WITH SOAP AND WATER.