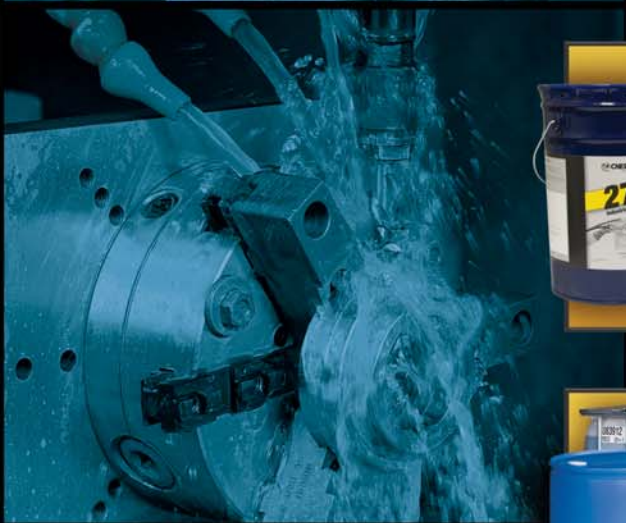
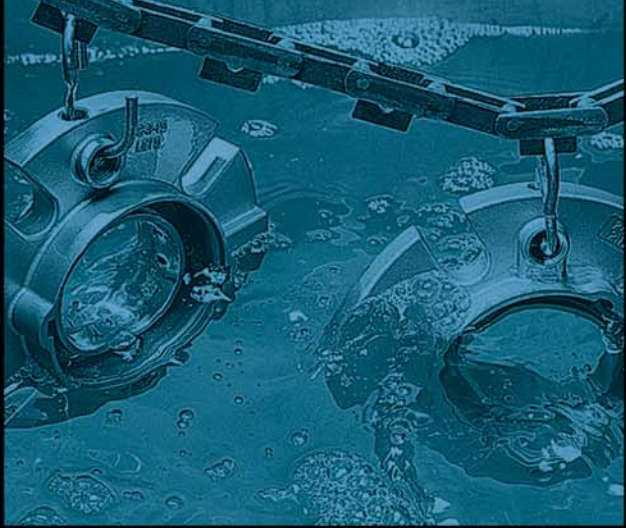


# TECHNICAL PRODUCTS

CLEANERS, LUBRICANTS,  
METAL WORKING FLUIDS AND  
MAINTENANCE SPECIALTIES



## Quality Products, Industry Solutions and Superior Services...

The A.W. Chesterton Company was established on the Boston, Massachusetts, waterfront in 1884. Today, Chesterton manufactures products that are stocked, sold and serviced by highly trained Chesterton Specialists in more than 97 countries worldwide. We are dedicated to learning the specific requirements of your application in order to tailor recommendations and achieve your expected results.

Chesterton's extensive network provides the best applications assistance and service available throughout the process and manufacturing industries. The local, trained Chesterton Specialist, field and product managers, as well as factory support staff are dedicated to worldwide ultimate Customer Care.



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All statements in this catalog pertaining to pressure, chemical compatibility, temperature, and service ratings are based on general service experience. Because of the wide variety of applications of our products, the broad range of products available, and the wide range of equipment conditions encountered, together with the unpredictable human factors involved in the installation of these products by the ultimate user, we do not encourage reliance on recommendations shown without specific prior service experience.

Specific data on materials, construction methods, installation and troubleshooting procedures are subject to change without notice.

For the reasons indicated, the A.W. Chesterton Company makes no warranties, expressed or implied, that products described are guaranteed for any length of time, for any measure of service, or for any specific purpose.

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*Chesterton offers products and total system solutions for production process, facility, and maintenance needs.*

1. CLEANERS & DEGREASERS
2. GREASES & LUBRICANTS
3. MAINTENANCE SPECIALTIES
4. METAL WORKING FLUIDS
5. CORROSION CONTROL

*State-of-the-art technologies, environmentally acceptable alternatives and strict quality processes contribute to fulfilling the customers' expectations:*

**Increased productivity**

**Lowered costs**

**Reduced disposal and labor costs**

*In partnership with our worldwide distribution channels and factory-trained local specialists; Chesterton offers superior value, outstanding customer service, technical support and delivery.*

*In these pages you will find an overview of our technical products. For in-depth, individual product information, ask your local Chesterton Specialist for our informative product data sheets.*

*Efficiency, performance and productivity today... tomorrow... always!*





# CLEANERS AND DEGREASERS





## CLEANING PROPERTIES

### WATER BASED – Alkali, pH 7 – 14

<i>Petroleum oil and grease</i>
<i>Natural oils/Greases – animal, plant, fish</i>
<i>Dust/Dirt carbon black</i>

### Chesterton Products

<i>217 Pressure Wash</i>
<i>218 HDP</i>
<i>235 SSC</i>
<i>360 Phosphate-Free Cleaner</i>
<i>365 Rust Free Rinse</i>
<i>801 Industrial &amp; Marine Solvent</i>
<i>803 Industrial &amp; Marine Solvent II</i>
<i>814 Sump Cleaner and Conditioner</i>
<i>820 KPC</i>

### WATER BASED – Acid, pH 0 – 7

<i>Inorganic deposits</i>
<i>Hardwater</i>
<i>Etch and clean concrete</i>
<i>Metal oxides – rust, aluminum oxide</i>

### Chesterton Products

<i>338 Super Rust Remover</i>
<i>346 Descaler &amp; Chemical Cleaner</i>

### SOLVENT BASED – Petroleum

<i>Petroleum oil and grease</i>
<i>Adhesives</i>
<i>Rubbers</i>
<i>Mold release</i>
<i>Paints/Coatings</i>
<i>Plastics</i>

### Chesterton Products

<i>274 Industrial Degreaser</i>
<i>276 Electronic Component Cleaner</i>
<i>277 Metal Surface Degreaser</i>
<i>278 Super Solv</i>
<i>292 Precision Degreasing Solvent</i>
<i>294 CSD</i>

### SOLVENT BASED – Halogenated

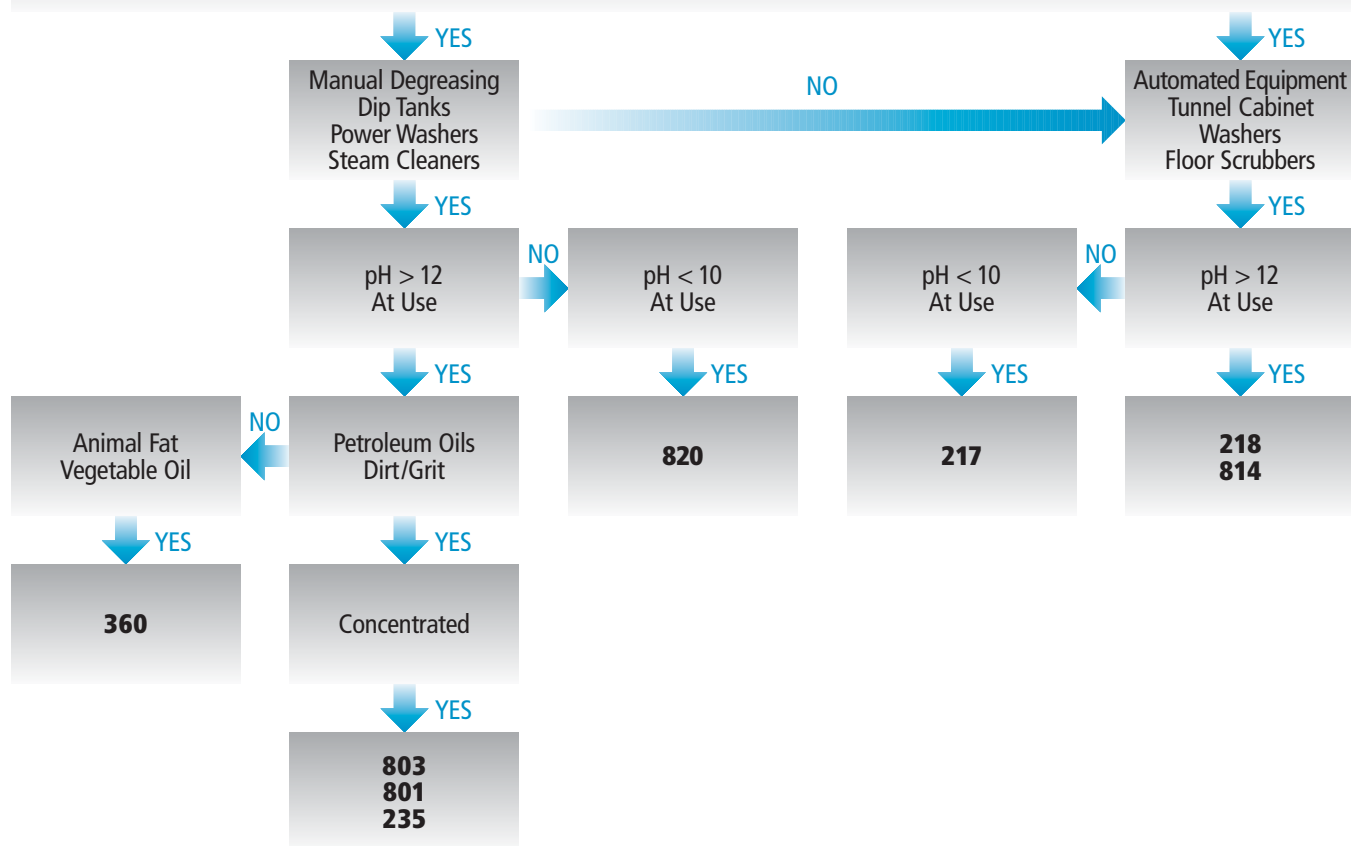
<i>Energized electrical equipment</i>
<i>Electric motors</i>
<i>Electrical controls</i>
<i>Difficult organic soils</i>

### Chesterton Products

<i>273 Electric Motor Cleaner</i>
<i>279 PCS</i>
<i>296 Electro Contact Cleaner</i>

# AQUEOUS CLEANERS/DEGREASERS

## ALKALINE CLEANERS/DEGREASERS



# 217

## PRESSURE WASH

*Virtually non-foaming liquid degreaser for high pressure spray booth washers. Moderate pH formulation is ideal for cleaning sensitive metals.*

### PRODUCT CHARACTERISTICS

Contains no harsh alkalis or toxic solvents  
Phosphate-free  
Extremely low foaming  
Easy to rinse; leaves low residue  
No silicones  
Contains no phosphates, Butyl Cellosolve†, EDTA, or toxic solvents  
Biodegradable  
Moderate pH  
No hazardous powder dust  
Safe to use on virtually all metals and most plastics

† Registered trademark of Union Carbide Corporation

### APPLICATIONS

High pressure wash  
Spray booth washers  
Steam cleaning equipment  
Agitated dip tanks



CONTAINER SIZE 217	REORDER NUMBER
20 Liter	086695
208 Liter	086821
1000 Liter Tote	083912

# 218

## HDP

*Heavy duty, concentrated, virtually non-foaming, liquid alkaline degreaser. Designed with the environment in mind, yet it handles tough degreasing applications.*

### PRODUCT CHARACTERISTICS

Excellent rinsability  
Corrosion inhibited  
No silicones  
Non-flammable  
No hazardous powder dust  
No toxic solvents  
No phosphates  
Can be used in food plants  
No EDTA  
No Butyl Cellosolve†  
NSF Registered  
Dye and fragrance free

† Registered trademark of Union Carbide Corporation

### APPLICATIONS

Spray booth washers  
Floor scrubbers  
High pressure washers  
Steam cleaning equipment

### NOTE

Chesterton's 218 HDP can be used up to 82°C (180°F)



CONTAINER SIZE 218	REORDER NUMBER
20 Liter	083001
208 Liter	083002
1000 Liter Tote	083074



# 235

# SSC

*Powerful cleaner removes oily and greasy deposits, waxes, loose paint and heavy soils. Specially formulated for steam cleaning equipment.*

## PRODUCT CHARACTERISTICS

Additives retard scale build-up and clogging of steam cleaning equipment  
Water based  
Concentrated  
Highly dilutable  
Biodegradable  
Non-flammable  
Contains strong alkalis, emulsifiers and surfactants  
No irritating fumes  
NSF Registered

## APPLICATIONS

### General

Concrete  
Masonry  
Equipment (all types)

### Pulp and Paper

Papermaking machines

### Textile

Clothing machinery

## CAUTION

Should not be used on aluminum or metals sensitive to high alkalinity  
When using on painted surfaces, test small area for compatibility



CONTAINER SIZE	REORDER NUMBER
235	
20 Liter	080032
208 Liter	080033

# 360

# PHOSPHATE-FREE CLEANER

*Especially effective for the food industry on animal fats and vegetable oils; a versatile, industrial cleaner for environmentally sensitive areas.*

## PRODUCT CHARACTERISTICS

Environmentally friendly  
Removes inorganic and light to medium organic soils  
Saponifies animal fat and vegetable oil  
High stable foam  
Biodegradable  
Non-flammable  
Solvent-free  
NSF Registered  
Approved by USCG  
Water soluble  
Highly concentrated  
Highly dilutable

## APPLICATIONS

### Food industry

Federally inspected meat and poultry plants  
Food processing equipment  
Bottling machines  
Wax and grease removal from vents, stoves, hoods and drains

### Waste water treatment

Floors  
Pump stations  
Sludge removal  
Fungi removal

### Marine

Decks, Hulls, Bilges

### Industrial

Floors, walls, vinyl tiles  
Concrete  
Machines  
Machine shop tools  
Gutters

## CAUTION

Do not use on aluminum



CONTAINER SIZE	REORDER NUMBER
360	
20 Liter	083603
208 Liter	083607
1000 Liter	086562



# 365

## RUST FREE RINSE

*An aqueous immersion rinse, passivates and protects ferrous metals from flash rust for up to 30 days at 90% relative humidity† (indoors).*

### PRODUCT CHARACTERISTICS

Prevents flash rusting of parts in process  
Will not interfere with post coating  
Completely water soluble  
Biodegradable  
Non-toxic  
Non-flammable  
Compatible with all aqueous degreasers



### APPLICATIONS

Production degreasing  
Final rinse tank additive  
May be spray applied to surfaces after cleaning/rinsing

### NOTE

† For longer term protection use Chesterton's 775 Moisture Shield or 740 Heavy Duty Rust Guard

CONTAINER SIZE	REORDER NUMBER
365	
20 Liter	086811
1000 Liter Tote	083905

# 801

## INDUSTRIAL & MARINE SOLVENT

*Industrial strength, multi-purpose water based degreaser.*

### PRODUCT CHARACTERISTICS

Concentrated  
Wide dilution range  
Non-flammable  
Biodegradable  
Stable, clinging foam  
NSF Registered  
Approved by USCG  
Economical, efficient



### APPLICATIONS

#### Machine shop/ Maintenance

Removes cutting oils from parts prior to inspection, assembly and shipping

#### Marine

Removes rot, mildew and fungi from hulls

#### Food industry

Food processing equipment  
Ventilation hoods/fans  
Floors/drains

### CAUTION

Do not use on metals sensitive to attack by alkaline materials

CONTAINER SIZE	REORDER NUMBER
801	
20 Liter	083202
208 Liter	083205
1000 Liter Tote	083909



803

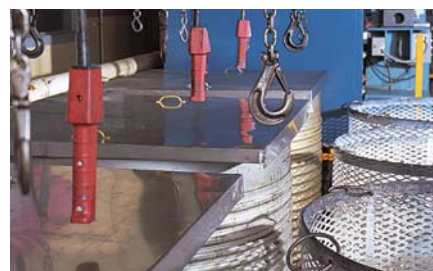
## INDUSTRIAL & MARINE SOLVENT II

*A powerful, non-solvent based degreaser. Its advanced surfactant technology offers maximum efficiency in soil removal, especially applications where solvent use is required.*

### PRODUCT CHARACTERISTICS

Effective for industrial cleaning dust, dirt,  
carbon black petroleum based oils  
Phosphate-free  
Biodegradable  
Free of Butyl Cellosolve<sup>†</sup>  
No EDTA  
Free of toxic solvents  
Concentrated  
Highly dilutable  
Tough on viscous, heavy soils  
Non-flammable  
No irritating fumes  
Can be used hot or cold  
Compatible with pressure washers  
and steam cleaners  
NSF Registered

<sup>†</sup> Registered trademark of Union Carbide Corporation



### APPLICATIONS

#### Pulp and paper industry

Cleaning production equipment

#### Chemical/ Oil processing

Production facilities

#### Food industry

Concrete floors  
Masonry walls  
Engine blocks  
Railroad equipment  
Farm implements  
Construction equipment and other hard surfaces

### CAUTION

Should not be used on aluminum or metals sensitive to high alkalinity  
When using on painted surfaces, test small area for compatibility

#### CONTAINER SIZE REORDER NUMBER

803	
1 Gallon/3.8 Liter	086774
20 Liter	090379
208 Liter	090388
1000 Liter Tote	086768

814

## SUMP CLEANER AND CONDITIONER

*Versatile, highly concentrated, non-foaming, alkaline cleaner and conditioner specifically designed for the Metal Processing Industry. Regular use at sump change outs eliminates contaminants and improves rancidity control.*

### PRODUCT CHARACTERISTICS

Removes old coolants, waxes, oils  
and microbial growth  
Concentrated  
Virtually non-foaming  
Corrosion inhibited  
Decontaminates and removes residues  
from rancid central sump systems  
Excellent hard water stability  
No residue  
Excellent demulsibility

### APPLICATIONS

#### Cleans and conditions

Central circulation reservoirs  
Mix tanks  
Pipe work  
Tooling  
Finished parts  
Floors  
Surfaces contaminated with machining or cutting fluids or oils



#### CONTAINER SIZE REORDER NUMBER

814	
20 Liter	083641
208 Liter	083642
1000 Liter Tote	080552



**820****820N****KPC**

*Balances powerful performance with environmental compliance and worker safety, the ideal choice for process degreasing.*

#### PRODUCT CHARACTERISTICS

Moderate pH  
 Low residue  
 No harsh alkalis  
 Phosphate-free  
 Non-flammable  
 Non-toxic  
 Biodegradable  
 Highly dilutable  
 Safe on most metals  
 NSF Registered  
 No offensive odor  
 Effective for dip tank cleaning  
     when heated to 82°C (180°F)  
 No Butyl Cellosolve<sup>†</sup> or 2-butoxyethanol  
 No EDTA

<sup>†</sup> Registered trademark of Union Carbide Corporation



#### APPLICATIONS

##### Quickly and efficiently removes

Oil deposits  
 Soot and exhaust residue  
 Metal working fluids  
 Animal and vegetable fats  
 Lubrication compounds  
 Soils common to industrial production areas  
 Optimum results when using ultrasonic machines, may be heated to 82°C (180°F) to enhance cleaning

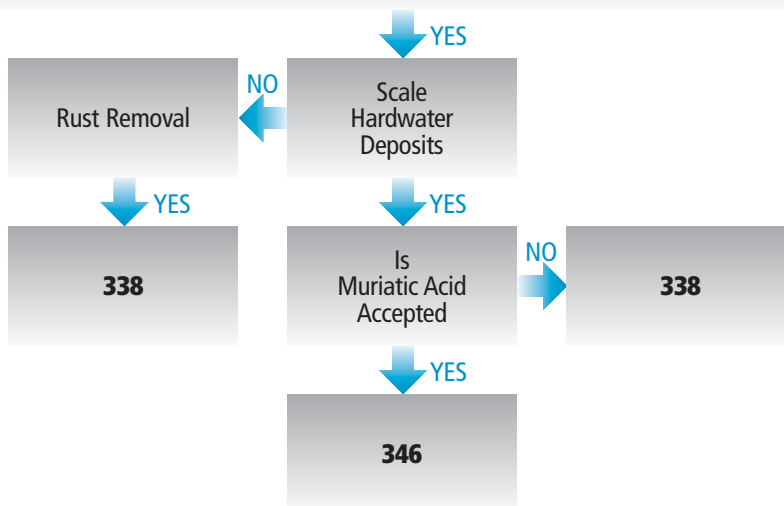
CONTAINER SIZE 820	REORDER NUMBER
20 Liter	082260
208 Liter	082264
1000 Liter Tote	083555

CONTAINER SIZE 820N**	REORDER NUMBER
20 Liter	088584
208 Liter	088585
1000 Liter Tote	088586

\*\*USA Formulation

# ACID CLEANERS/DEGREASERS

## ACID CLEANERS



**338**

## SUPER RUST REMOVER

*Removes rust from ferrous metals, corrosion from aluminum, brightens copper, brass, stainless steel, and zinc quickly and safely.*

### PRODUCT CHARACTERISTICS

- Highly concentrated, acid based
- Can be used on all metals
- Removes metal oxide layer
- Brightens non-ferrous metals
- Leaves metal paint ready
- Inhibited to protect base metals
- Biodegradable
- Water based
- Non-flammable
- Rinses clean with water
- Short term corrosion protection coating



### APPLICATIONS

#### General

- Metal prefinishing of vehicle bodies
- Chassis
- Appliances
- Machined parts
- Machine tool frames
- Sheet metalwork

#### Maintenance

- Restores rusted inventories
- Nuts/Bolts
- Threaded assemblies
- Internal corrosion
- Shafts
- Cast housings

CONTAINER SIZE	REORDER NUMBER
338	
20 Liter	085904
208 Liter	085907

## DESCALER & CHEMICAL CLEANER



*Strong, acid based multi-use liquid formulated with metal protecting inhibitor for a wide range of applications.*

### PRODUCT CHARACTERISTICS

Biodegradable  
Water based  
Non-flammable  
Dissolves rust and scale  
while protecting base surface  
Concentrated hydrochloric base  
Versatile  
Efficient  
Economical, saves on labor,  
maintenance costs and fuel consumption  
NSF Registered



### APPLICATIONS

**Removes hard water build-up, lime scale and corrosion from**

Steam boiler tubes  
Condenser water systems  
Water circulating equipment

### General

Etches concrete  
Cleans stained concrete  
Removes cement build-up from equipment

### CAUTION

Not effective on grease, oil and common soil  
Not for use on aluminum, painted enamel, stainless steel or decorative metals

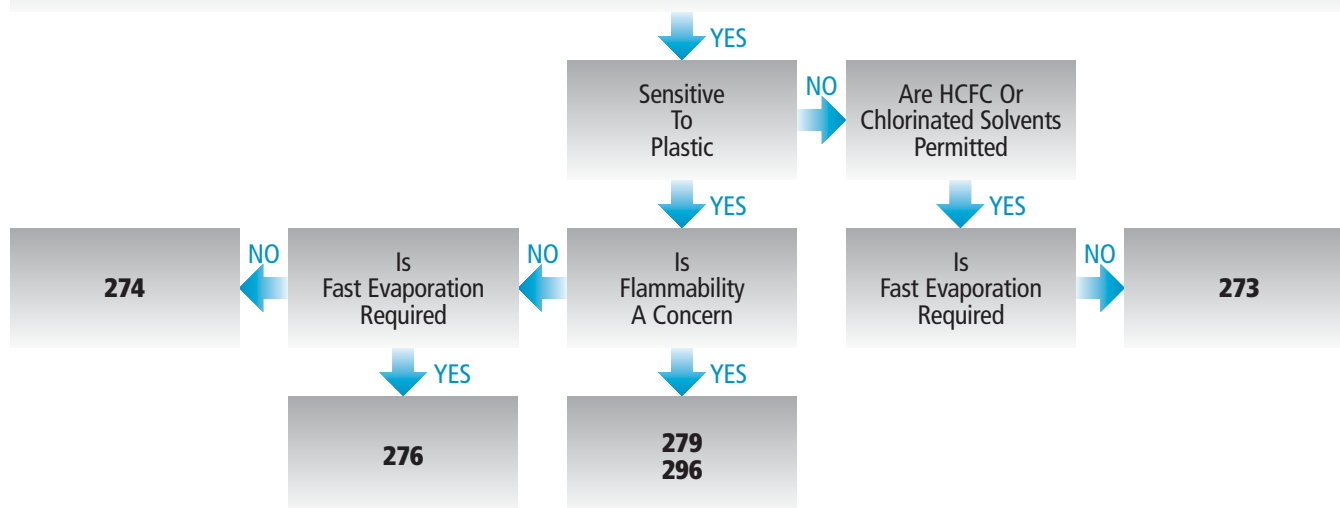
### NOTE

For detailed application instructions please refer to the product data sheet

CONTAINER SIZE	REORDER NUMBER
20 Liter	088403
208 Liter	088407

## SOLVENT CLEANERS/DEGREASERS

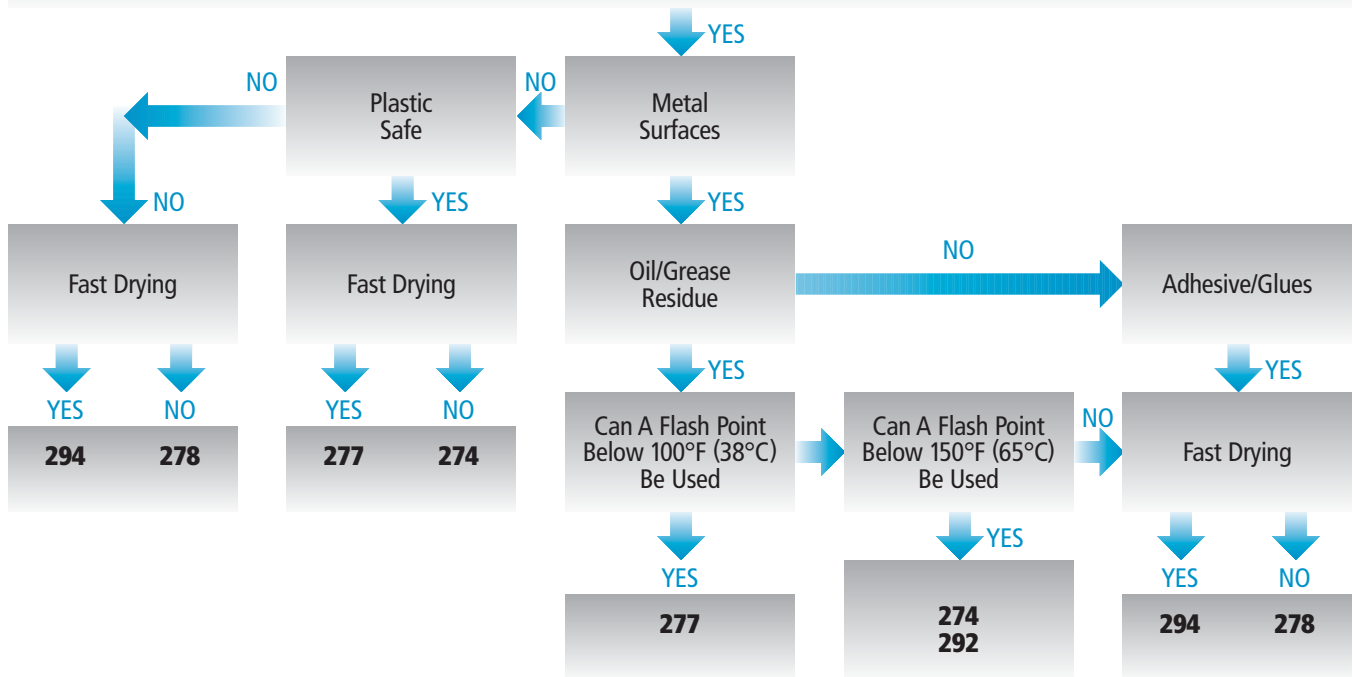
### ELECTRONIC CLEANING/DEGREASING





# SOLVENT CLEANERS/DEGREASERS

## MECHANICAL CLEANING/DEGREASING



274

## INDUSTRIAL DEGREASER

*An industrial and marine environment, hard surface degreaser.*



### PRODUCT CHARACTERISTICS

Dissolves petroleum oil, grease, tar and other inorganic soils  
Does not corrode metals  
Low evaporation rate, results in reduced consumption and replacement  
Low odor  
Low aromatic content  
High flash point  
Does not attack most paints and plastics  
Safe for use on all metals  
Fast penetrating action  
NSF Registered



### APPLICATIONS

Metal production shops  
Paint shops  
Boiler rooms  
Repair shops  
Ship yards  
Maintenance shops  
Dip tanks  
Hard surfaces  
Machined parts  
Recirculating and agitated parts washer  
Metal parts  
Equipment

CONTAINER SIZE 274	REORDER NUMBER
Aerosol	081676
1 Gallon/3.8 Liter	081278
20 Liter	081006
208 Liter	081013

294

## CSD

*A fast acting, general purpose industrial degreaser engineered to reduce the time consumed on mechanical maintenance operations and costly downtime.*



### PRODUCT CHARACTERISTICS

Fast evaporation  
No residue  
Safe on all metals  
Safe on most plastics, rubbers and coatings – test prior to use  
Low aromatic content  
No HCFC, CFC, TCE, n-PBr  
Removes dust, dirt, oil and other industrial soils  
Dissolves resins, polymers, adhesives and petroleum residues  
Flash point (ASTM D 93, DIN 51 755) <-18°C (<0°F)



### APPLICATIONS

Chains and cables  
Gear boxes  
Dies and molds  
Bearings  
Air tools  
Pneumatic tools  
Fork lifts  
Brakes and clutches  
Material handling equipment  
Parts and tools

### CAUTION

294 CSD should not be used on energized electrical equipment or near ignition sources.

CONTAINER SIZE 294	REORDER NUMBER
Aerosol	080783

# 276

## ELECTRONIC COMPONENT CLEANER

*Fast evaporating, high performance, solvent based degreaser containing no ozone depleting solvents.*

### PRODUCT CHARACTERISTICS

Fast evaporation rate  
Low residue  
Non chlorinated  
Safe for use on all metals  
No ozone depleting materials  
NSF Registered



### APPLICATIONS

#### Spray cleaning

Switches  
Controllers  
Panel meters  
Circuit boards  
Contacts  
Levers  
Control panels

#### Hard surface degreasing

Equipment  
Motors  
Non-energized electrical equipment  
Parts in process

CONTAINER SIZE	REORDER NUMBER
276	
Aerosol	081622
20 Liter	081623
208 Liter	081624

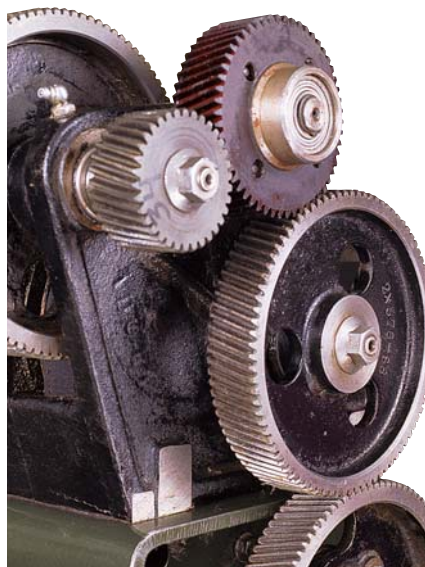
# 277

## METAL SURFACE DEGREASER

*A fast acting, low residue, non-chlorinated industrial strength degreaser designed to penetrate oils, greases and other soils.*

### PRODUCT CHARACTERISTICS

Fast evaporating degreaser  
Safe for use on all metals  
Low aromatic content  
Strong flushing action  
Removes dust, dirt, oil and other industrial soils  
Low residue  
No ozone depleting chemicals or suspected carcinogens  
NSF Registered



### APPLICATIONS

#### General

Roller bearings  
Slides  
Hinges  
Valves and fittings  
Motors  
Chain drives/Sprockets  
Moving mechanisms  
Delicate precision instruments  
Parts in process  
Equipment

CONTAINER SIZE	REORDER NUMBER
277	
Aerosol	083236
1 Gallon/3.8 Liter	083458
20 Liter	083432
208 Liter	083433



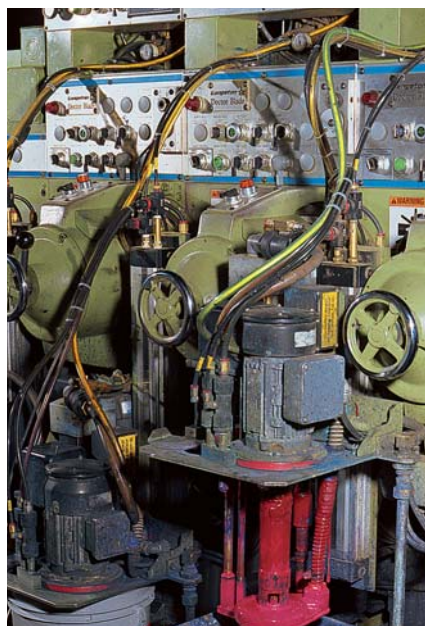
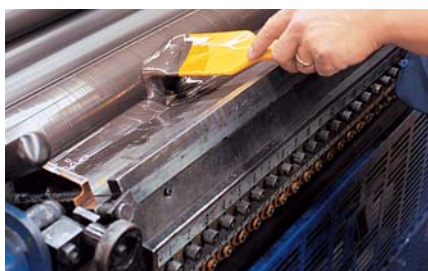
278

## SUPER SOLV

*Aggressive solvent based degreaser, attacks adhesives, uncured epoxies, tars and gums.*

### PRODUCT CHARACTERISTICS

Excellent for safe removal of polymeric soils  
High flash point over 107°C (224°F);  
can be heated  
Contains no chlorinated  
or ozone depleting solvents  
Low evaporation rate  
Safe for use on all metals



### APPLICATIONS

For soils that cannot be easily removed with conventional petroleum based solvents  
Tar  
Uncured epoxies  
Baked on gums and polymers  
Adhesives  
Printing inks  
Greases  
Oils

### NOTE

A concentrate that can be diluted up to ten times with a hydrocarbon solvent such as Chesterton 274 Industrial Degreaser

### CAUTION

Will attack most polymeric materials when used as a concentrate

CONTAINER SIZE 278	REORDER NUMBER
20 Liter	082290
208 Liter	088739

273

## ELECTRIC MOTOR CLEANER

*Removes grease, sludge, dirt from motors and electrical equipment while operating up to 240 volts. One of the few such products classified by Underwriters Laboratories as non-flammable.<sup>†</sup>*

### PRODUCT CHARACTERISTICS

Non-flammable  
Effectively degreases electric motors while operating up to 240 volts  
High dielectric strength  
Non-conductive  
Non-corrosive  
NSF Registered  
Removes heavy and light oil and grease and organic residues  
Evaporates quickly, no residue



<sup>†</sup> Classified by Underwriters Laboratories, Inc., as to fire hazard only. Spray does not propagate flame. Deposited liquid residue is classified as non-flammable

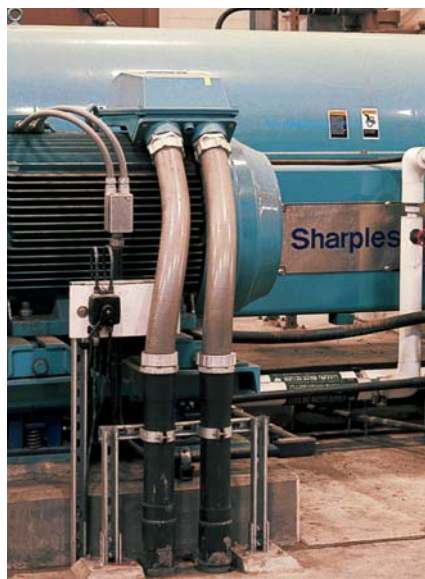


### APPLICATIONS

Electronic equipment  
Electric motors  
Fuse holders  
Blowers  
Fans  
Hoists  
Switches  
Transformers  
Cables  
Control panels  
Motor windings  
Circuit boards  
Electrical test equipment  
Motorized instruments

### NOTE

On plastic, paint or rubber, test small area prior to use  
Re-lubricate as necessary



CONTAINER SIZE 273	REORDER NUMBER
Aerosol	080502
20 Liter	080514
208 Liter	080517

279

## PCS



*A clear, low-odor non-ozone depleting precision cleaning solvent. State-of-the-art HFE technology removes light oils, particulates, Krytox<sup>†</sup> grease, fluoropolymers and other contaminants from electrical and electronic contact and assemblies.*

### PRODUCT CHARACTERISTICS

Non-flammable  
Fast evaporating  
Low residue  
Non-corrosive  
High purity  
High dielectric strength  
No ozone depleting potential  
No VOC's  
Replaces CFC-113  
Safe on plastic  
NSF Registered

<sup>†</sup> Krytox is a registered trademark of E.I. du Pont de Nemours



### APPLICATIONS

#### Electronics

Electrical/Electronic equipment  
Motorized instruments

#### Medical industry

Medical devices  
Oxygen lines and valves

#### General

Gyroscopes  
Delicate instrumentation

#### 279 Materials Compatibility

All metals  
Plastics  
Elastomers

### NOTE

For the complete materials compatibility chart and product information, please consult 279's product data sheet or contact your local representative

CONTAINER SIZE	REORDER NUMBER
279	
Aerosol	083434

292

## PRECISION DEGREASING SOLVENT

*Fast evaporating, low odor, industrial strength solvent blend cleans equipment instantly before disassembly, maintenance and repair.*



### PRODUCT CHARACTERISTICS

Flash point 41°C (105°F)  
Low citrus odor  
Low aromatic content  
Safe for all metals and most plastics  
Fast evaporation rate  
Removes oil, grease, wax, tar and other organic soils  
Replaces kerosene, mineral spirits, chlorinated solvents and naphtha based degreasers  
High Kb value  
Contains no ozone depleting substances  
Low residue  
NSF Registered



### APPLICATIONS

Bearings  
Pulleys  
Valves and fittings  
Chains  
Cables  
Molds  
Lathes  
Presses  
Production tools  
Finished parts  
Non-energized electrical, equipment, motors, switches and controllers

### NOTE

May attack some rubber and plastics.  
Test prior to use

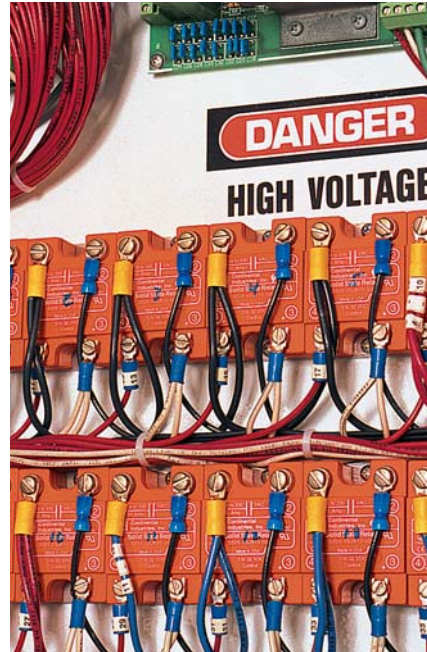
CONTAINER SIZE	REORDER NUMBER
292	
Aerosol	080529
20 Liter	080563
208 Liter	080564



*New generation precision cleaning solvent designed to replace CFC-113, HCFC-141b and other ozone depleting materials.*

#### PRODUCT CHARACTERISTICS

- Non-flammable
- No VOC's
- No ozone depleting potential
- Fast evaporating
- Safe on plastics
- Low residue, high purity
- Non-corrosive
- High dielectric strength
- Restores and improves electrical continuity on energized equipment
- Removes fluorinated lubricants
- NSF Registered



#### APPLICATIONS

- Switches
- Controllers
- Panel meters
- Circuit boards
- Contacts
- Levers
- Motorized instruments
- Medical devices
- Control panels

#### Hard surface degreasing of

- Equipment
- Motors
- Parts in process

CONTAINER SIZE  
296

Aerosol\*

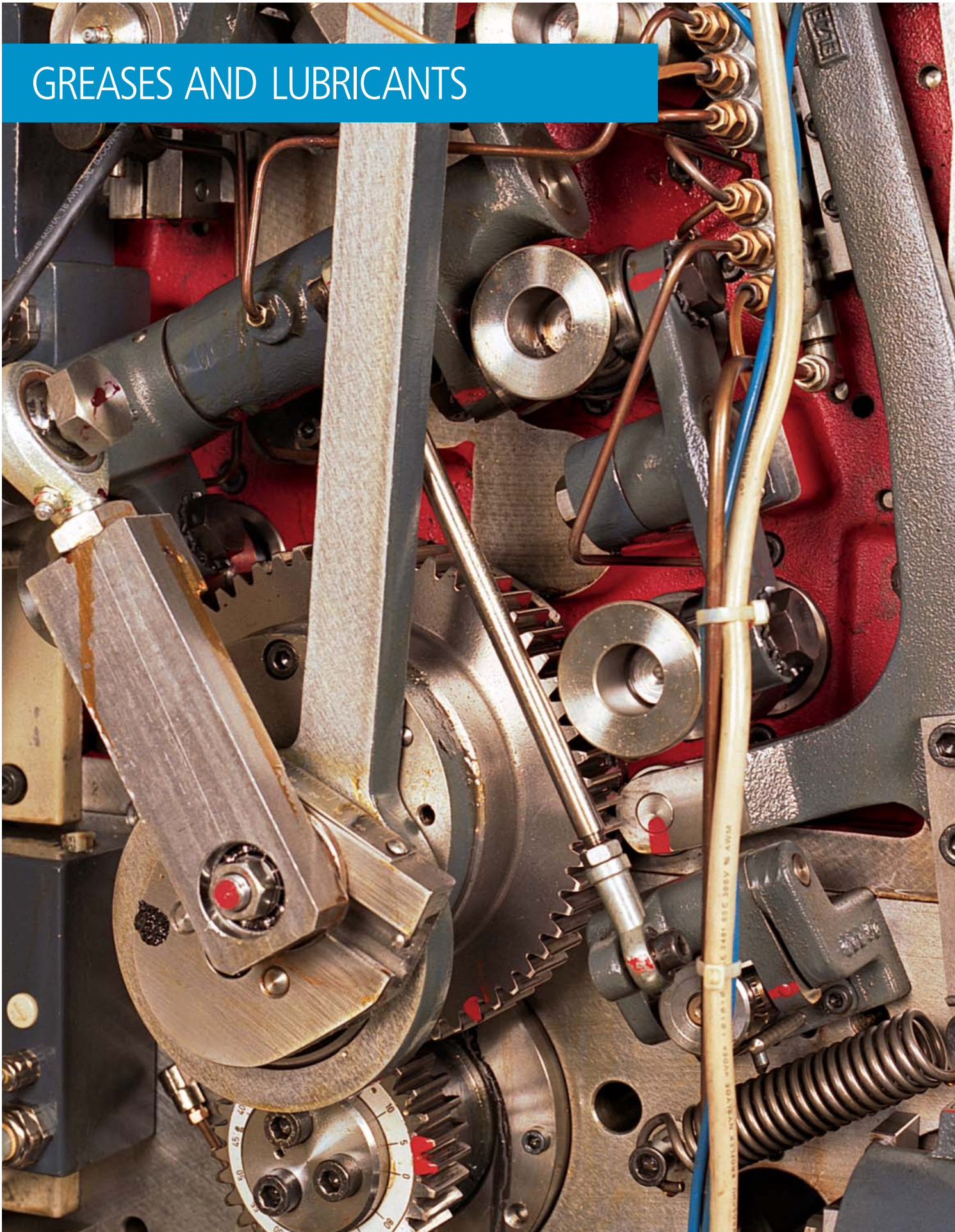
REORDER NUMBER

080631

\*Not available in Bulk



# GREASES AND LUBRICANTS





## MOLY GREASE

*Long lasting multi-purpose, extreme pressure grease; fortified with molybdenum disulfide to handle challenging applications ranging from -18°C to 138°C (0°F to 280°F).*

### PRODUCT CHARACTERISTICS

Contains inhibitors protect lubricated equipment  
Excellent resistance to water washout  
Saves cost of replacement parts  
Prolongs the life of parts and machinery



### APPLICATIONS

Conveyors  
Mining equipment  
Plain and anti-friction bearings  
Cams  
Guides  
Ways  
Slides  
Electric motors  
Fans  
Blowers  
Pumps  
Generators  
Presses and shears  
Ideal for equipment subject to extra pressures, and shock loading vibration at start-up or during operation

CONTAINER SIZE	REORDER NUMBER
400 Gram	089409
18 Kilogram	089407
181 Kilogram	080722

## HTG #1

*Versatile, high performance NLGI #1 grease, with excellent extreme pressure properties and superior corrosion protection. Ideal for high speed operating equipment and automatic lubrication systems.*

### PRODUCT CHARACTERISTICS

Easily pumpable in automatic grease-dispensing systems  
Will not bleed or age harden  
Excellent shear and roll stability  
Excellent protection against corrosion in high moisture environments  
Outstanding extreme pressure and temperature characteristics  
Dropping point 288°C (550°F)  
NSF Registered  
QBT™ Quiet Bearing Technology



### APPLICATIONS

Machine tools  
Mechanical presses  
Milling heads  
Reduction gears  
Cams  
Toggle joints  
Links  
Calender bearings  
High-speed spindle gears  
Continuous caster bearings  
Torch pin rolls  
Shears  
Blowers  
Conveyors  
Grinding mills  
Crushers  
Hoists  
Bearings  
Electric motors  
Couplings

CONTAINER SIZE	REORDER NUMBER
400 Gram	086935
18 Kilogram	086936
55 Kilogram	086007

## 615



## HTG #2

*High-performance, corrosion inhibited grease with outstanding extreme pressure capabilities and excellent water washout resistance. Temperature limit –40°C (–40°F) to 204°C (400°F).*

### PRODUCT CHARACTERISTICS

Superior water resistance  
Excellent corrosion protection  
Compatible with most popular greases  
Exceptional shear resistance  
Anti-oxidants prevent hardening or crystallization  
Dropping point 300°C (572°F)  
NSF Registered  
QBT™ Quiet Bearing Technology



### APPLICATIONS

#### High water environment plants

Pulp and paper mills  
Mining operations  
Transportation  
Coal and ore processing  
Construction  
Metal fabrication  
Steel mills

#### Industrial and marine

Conveyors  
Grinding mills  
Crushers  
Bearings  
Shears  
Blowers  
Rolling mills  
Traveling cranes  
Mechanical presses  
Cams  
Toggle joints  
Guides  
Ways  
Slides

CONTAINER SIZE 615	REORDER NUMBER
400 Gram	080042
18 Kilogram	080043
55 Kilogram	080045
181 Kilogram	080728

## 622



## WHITE GREASE

*Superior quality, multi-purpose, H1 food grade lubricant, clean, pure mineral oil.*

### PRODUCT CHARACTERISTICS

NSF Registered H1  
Resistant to water, steam, caustics and cleaning agents  
Virtually colorless, odorless, tasteless  
Complies with sections 178.3570 and 177.1550, of FDA food additives regulations  
Dropping point 260°C (500°F)



### APPLICATIONS

#### Food industry

Bottling equipment  
Fruit feeders  
Paste and sauce fillers  
Canning machinery  
Meat packaging equipment  
Carton filling equipment

#### General

Valves  
Pistons  
Pumps  
Conveyor belts  
Rollers  
Machinery  
Slides  
Guides

CONTAINER SIZE 622	REORDER NUMBER
400 Gram	085312
900 Gram	085314
18 Kilogram	085304
55 Kilogram	085335



# 629

## HIGH TEMPERATURE WHITE GREASE

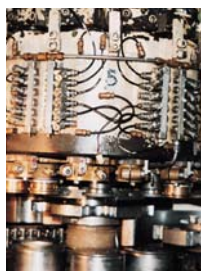
*High temperature, premium quality, pure mineral oil and PTFE fortified grease. Offers excellent resistance to water, steam, caustics and other cleaning agents.*

### PRODUCT CHARACTERISTICS

Chemically stable, non-reactive with metal, rubber and plastics  
Virtually colorless  
Odorless  
Tasteless  
Complies with sections 178.3570 and 177.1550, of FDA food additives regulations  
Smooth tacky texture  
Adheres to metal  
NSF Registered  
Dropping point over 260°C (500°F)

### APPLICATIONS

Processing and packaging machinery  
Slides  
Guides  
Anti-friction bearings  
Grease lubricated chains  
Bottle and carton filling machines  
Paste and sauce fillers  
Conveyor belts  
Rollers  
Canning machinery  
Any moving parts of equipment processing clean materials or packages



CONTAINER SIZE	REORDER NUMBER
629	
400 Gram	081127
18 Kilogram	081128
55 Kilogram	081187

# 625

## CXF

*High-performance, corrosion inhibited grease with outstanding extreme pressure capabilities and excellent water washout resistance. 625 is NSF Registered H1 and complies with FDA regulations 178.3570. Temperature limit -30°C (-22°F) to 204°C (400°F).*

### PRODUCT CHARACTERISTICS

NSF Registered H1  
Superior water washout resistance  
Excellent corrosion protection  
Compatible with most popular greases  
Exceptional shear resistance  
Anti-oxidants prevent hardening or crystallization  
Dropping point 318°C (604°F)  
QBT™ Quiet Bearing Technology

### APPLICATIONS

Food, pharmaceutical, beverage industries  
Pharmaceutical processing and packaging machines  
Bottling equipment  
Fruit feeders  
Paste and sauce fillers  
Canning machinery  
Meat packaging equipment  
Carton filling equipment



CONTAINER SIZE	REORDER NUMBER
625	
400 Gram	088548
18 Kilogram	088549
55 Kilogram	088550
180 Kilogram	088551

**630**

## SXCF



*High-performance, corrosion inhibited grease with outstanding extreme pressure capabilities and excellent water washout resistance. 630 is synthetic based, and offers superior high temperature stability and resistance to steam and cleaning chemicals. 630 is NSF Registered H1 and complies with FDA regulations 178.3570. Temperature limit -40 °C (-40 °F) to 240 °C (464 °F).*

### PRODUCT CHARACTERISTICS

NSF Registered H1  
Superior water washout resistance  
Excellent corrosion protection  
Compatible with most popular greases  
Exceptional shear resistance  
Anti-oxidants prevent hardening or crystallization  
Dropping point 318°C (604°F)  
QBT™ Quiet Bearing Technology



### APPLICATIONS

Food, pharmaceutical, beverage industries  
Pharmaceutical processing and packaging machines  
Bottling equipment  
Fruit feeders  
Paste and sauce fillers  
Canning machinery  
Meat packaging equipment  
Carton filling equipment



CONTAINER SIZE 630	REORDER NUMBER
400 Gram	088552
18 Kilogram	088553
55 Kilogram	088554
180 Kilogram	088555

**633**

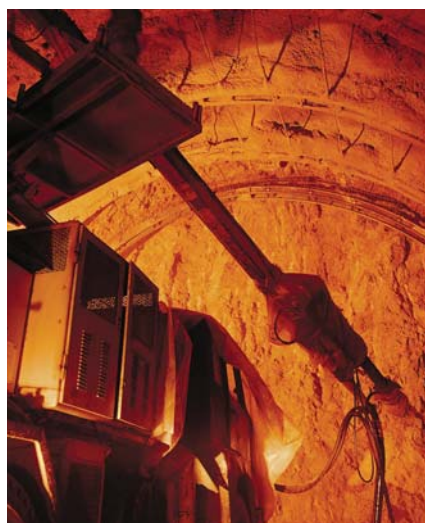
## SXCM



*High-performance, corrosion inhibited grease with outstanding extreme pressure capabilities and excellent water washout resistance. 633 is synthetic based with MoS<sub>2</sub>, and offers superior high and low temperature stability and resistance to steam and corrosive chemicals. Temperature limit -50 °C (-58 °F) to 250 °C (482 °F).*

### PRODUCT CHARACTERISTICS

Superior water washout resistance  
Excellent corrosion protection  
Compatible with most popular greases  
Exceptional shear resistance  
Anti-oxidants prevent hardening or crystallization  
Dropping point 288°C (550°F)  
QBT™ Quiet Bearing Technology

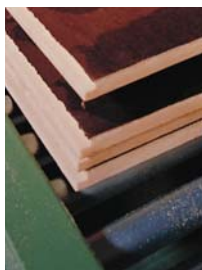


### APPLICATIONS

Pulp and paper mills  
Mining operations  
Transportation  
Coal and ore processing  
Construction  
Metal fabrication  
Steel mills

### Industrial and marine

Heavy off road machines  
Conveyors  
Grinding mills  
Crushers  
Bearings  
Shears  
Blowers  
Rolling mills  
Traveling cranes



CONTAINER SIZE 633	REORDER NUMBER
400 Gram	088560
18 Kilogram	088563
55 Kilogram	088564
180 Kilogram	088565



# 635

# SXC



*High-performance, corrosion inhibited grease with outstanding extreme pressure capabilities and excellent water washout resistance. 635 is synthetic based, and offers superior high temperature stability and resistance to steam and corrosive chemicals. Temperature limit -40 °C (-40 °F) to 240 °C (464 °F).*

## PRODUCT CHARACTERISTICS

Superior water washout resistance  
Excellent corrosion protection  
Compatible with most popular greases  
Exceptional shear resistance  
Anti-oxidants prevent hardening or crystallization  
Dropping point 318°C (604°F)  
QBT™ Quiet Bearing Technology



## APPLICATIONS

Pulp and paper mills  
Mining operations  
Transportation  
Coal and ore processing  
Construction  
Metal fabrication  
Steel mills  
**Industrial and marine**  
Ovens  
Hot process fluid systems  
Fans  
Conveyors  
Grinding mills  
Crushers  
Bearings  
Shears  
Blowers  
Rolling mills  
Traveling cranes

CONTAINER SIZE 635	REORDER NUMBER
400 Gram	088556
18 Kilogram	088557
55 Kilogram	088558
180 Kilogram	088559

# 601

# CHAIN DRIVE PIN & BUSHING LUBRICANT



*Premium quality light oil, penetrates between the close clearance of chain drive bushings and pins to provide critical lubrication. The lubricant of choice in the industry for over 30 years.*

## PRODUCT CHARACTERISTICS

Rapid penetration  
Pressure additives increase load carrying ability at start up stresses  
No dirt and dust build up in chains  
No sticky lubricant residues  
Corrosion inhibiting properties  
Extends chain life 2 to 4 times  
Long lasting, non-drying film  
NSF Registered



## APPLICATIONS

Chain drives  
for assembly lines  
Conveyors  
Packaging equipment  
Hoist chains  
Link and roller assemblies  
Forklift trucks  
Tractors  
Machinery  
Chain saws  
Robotic equipment  
lubricant

CONTAINER SIZE 601	REORDER NUMBER
Aerosol	081902
1 Gallon/3.8 Liter	081904
20 Liter	081910
208 Liter	081907

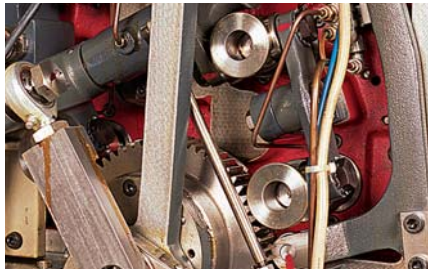
**610****610HT**

## SYNTHETIC LUBRICATING FLUID

*Premium quality 100% synthetic fluid cleans as it lubricates over a wide temperature range of -25°C to 270°C (-13°F to 518°F).*

### PRODUCT CHARACTERISTICS

Self cleaning  
No residue  
Non-carbonizing  
NSF Registered  
Low evaporation rate  
High flash point  
Good flowability for low temperature applications to -25°C (-13°F)  
610HT higher viscosity, virtually dripless, recommended for chains operating continuously over 180°C (356°F)



CONTAINER SIZE	REORDER NUMBER
610	

Aerosol	089411
1 Gallon/3.8 Liter	089415
20 Liter	089414
208 Liter	089424

CONTAINER SIZE	REORDER NUMBER
610HT	

1 Gallon/3.8 Liter	083765
20 Liter	080418
208 Liter	080419

### APPLICATIONS

**On equipment operating in elevated temperatures, refrigerated areas and in severe environments**

Oven chains  
Anti-friction bearings  
Gearboxes  
Conveyor roller bearings  
Chain conveyors  
Drying ovens  
Ceramic ovens  
Heat treating conveyors  
Electric motors  
Fans  
Plastic extrusion equipment  
Plastic film forming  
Textile tenter frames

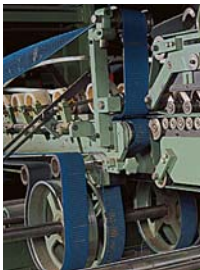
**651**

## DETERGENT LUBRICATING OIL

*All purpose, light duty lubricant with active detergent additives to clean, penetrate, lubricate, and prolong the life of all types of parts and equipment.*

### PRODUCT CHARACTERISTICS

Cleans as it lubricates  
Will not build-up  
Penetrates close tolerances  
Cleans old sludge and gumming  
Ideal for high speed industrial bearings  
NSF Registered  
Safe and easy to use  
Reduces maintenance and replacement parts cost



### APPLICATIONS

#### General

Pneumatic equipment  
Electric motors  
Chronometers  
Amplifiers  
Machine shops  
Instrument repair shops  
Boiler rooms  
Assembly lines  
Bearings  
Linkages  
Levers  
Hinges

#### NOTE

For chain drive applications  
Chesterton's 601 Chain Drive Pin & Lubricant may also be used

CONTAINER SIZE	REORDER NUMBER
651	

Aerosol	081102
20 Liter	081111
208 Liter	081107



652

## PNEUMATIC LUBRICANT & CONDITIONER

*High performance, low viscosity formulation reduces up to 90% of pneumatic maintenance costs, decreases downtime and rejects. Cleans, protects and prolongs the life of pneumatic equipment.*

### PRODUCT CHARACTERISTICS

Will not cause sludge build-up  
NSF Registered  
Conditioners prevent seals and O-rings from drying out  
Significantly reduces power consumption  
Prolongs life of air tools  
Cleans rust, sludge and dirt from all air tools as it lubricates

### APPLICATIONS

Air tools  
Cylinders  
Air line lubricators  
Air impact wrenches  
Air hammers  
Air drills  
Air grinders  
Production air systems  
CNC machines  
Robotics  
Assembly line tools



CONTAINER SIZE 652	REORDER NUMBER
475 Milliliter	086888
1 Gallon/3.8 Liter	080447
20 Liter	086000
208 Liter	083018

660

## SILICONE LUBRICANT

*Clean, clear, colorless food-grade lubricant for plastics, rubber and food processing equipment that works where petroleum oils won't.*

### PRODUCT CHARACTERISTICS

Broad temperature range  
-40°C (-40°F) to 205°C (401°F)  
NSF Registered H1  
Complies with sections 178.3570, 181.28 and 178.3910 of FDA food additives regulations  
Makes surfaces water-resistant  
Non-staining, fire-resistant, non-toxic  
Penetrates fine tolerances  
Long-lasting

### APPLICATIONS

Plastic to plastic,  
plastic to metal,  
and rubber to  
metal lubrication

### Food processing

Plastic gears  
Rollers  
Cams  
Hinges  
Slides  
Bearing mixers  
Conveyors

### Other

High-speed injection  
molding  
Medical and  
pharmaceutical  
equipment  
Rubber gasketing  
Sliding doors



CONTAINER SIZE 660	REORDER NUMBER
Aerosol	081502
1 Gallon/3.8 Liter	081504
20 Liter	081519
208 Liter	081506



677

## DRY LUBRICANT



*The lubricant of choice when lubricated areas must be free from oil and oil stains. Slippery, clean, dry PTFE powder lubricant for smooth or porous surfaces, ensures nearly frictionless operation.*

### PRODUCT CHARACTERISTICS

- Dries instantly
- Clean, non-staining, dry PTFE lubricant
- Low coefficient of friction
- Excellent chemical resistance
- Strong resistance to wash out
- Withstands temperatures up to 204°C (400°F)
- Will not absorb or hold moisture
- Thin coating with pin point spray reduces product waste
- Prevents gaskets from adhering and parts from sticking
- Reduces costs from torn gasketing or imperfect molded parts



### APPLICATIONS

- Sliding mechanisms
- Cables
- Tools
- Conveyors
- A break-in lubricant for pump shafts and valve packing
- Prevents binding on woodworking tools and equipment
- Paper converting equipment
- Cutting tables
- Folding tables

CONTAINER SIZE  
677

REORDER NUMBER

Aerosol

080708

690FG

## LUBRICANT

*Cost effective, high quality, multi-purpose, non-staining penetrating lubricant. USDA authorized for incidental food contact and meets FDA standards.*

### PRODUCT CHARACTERISTICS

- Clear, colorless, odorless
- Complies with section CFR 178.3620 of FDA food additives regulations
- High flash point, 171°C (340°F)
- Safe and easy to use in bulk or aerosol
- NSF Registered H1



### APPLICATIONS

#### Food industry

- Bottle, canning and carton filling machines
- Paste and sauce fillers
- Fruit feeders
- Bakery equipment
- Mixers
- Metering pumps
- Chain drives
- Piston and valves
- Rollers

### NOTE

For food processing equipment and non-staining applications requiring a long lasting grease, use 622 White Grease or 629 High Temperature White Grease  
For food contact at higher temperature applications, use 660 Silicone Lubricant, up to 205°C (401°F)

CONTAINER SIZE  
690FG

REORDER NUMBER

Aerosol

082706

1 Gallon/3.8 Liter

082703

20 Liter

082710

208 Liter

082705

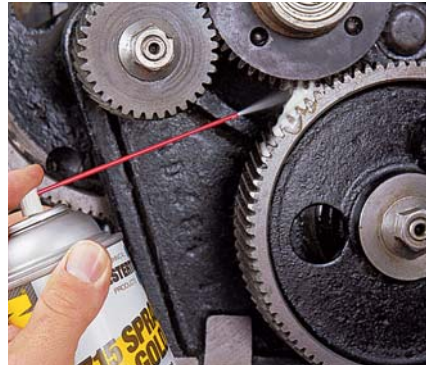
715

## SPRAFLEX®/SPRAFLEX® GOLD

*A surface lubricant for chain drives, open gears and wire rope. Bonds a long lasting, non-extruding "wear shield" to protect equipment operating under heavy loads.*

### PRODUCT CHARACTERISTICS

Non-drip  
Self adhering, flexible lubricant  
Water resistant  
Resistant to acid fumes  
Guards against rust and corrosion  
Resists extrusion  
NSF Registered  
Replaces lubricant at every revolution



### APPLICATIONS

Chain drives  
Open gears  
Hoists  
Wire ropes and cables  
Textile equipment  
Paper making machinery  
Debarking drums  
Dams and lock gates  
Drag lines  
Rotary kilns/dryers  
Rotary feeders  
Conveyor chains

### NOTE

Use Chesterton's 715 Spraflex Gold where a clean, non-staining film is needed

CONTAINER SIZE 715	REORDER NUMBER
Aerosol	081702
20 Liter	081709
208 Liter	081707

CONTAINER SIZE 715-GOLD	REORDER NUMBER
Aerosol	082015
1 Gallon/3.8 Liter	081896
20 Liter	081897
208 Liter	081898

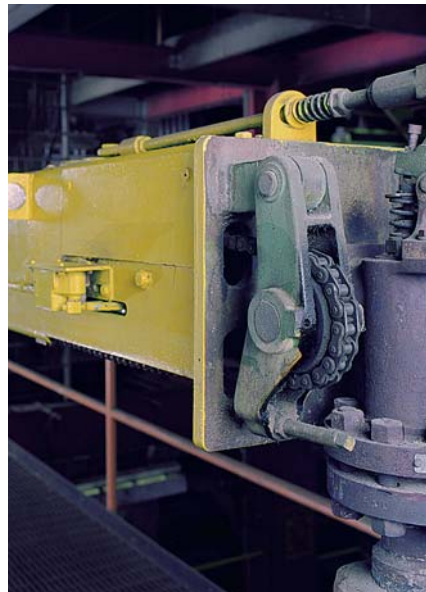
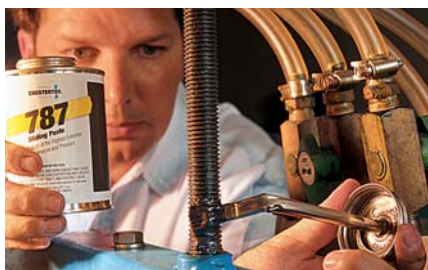
787

## SLIDING PASTE

*A semi-solid, pure synthetic base, high performance, extreme pressure lubricant. Leaves a solid lubricating film long after other lubricants have disappeared, without varnishing, up to 538°C (1000°F).*

### PRODUCT CHARACTERISTICS

Pure, non-carbonizing synthetic base  
Lubricates at pressures to 10687 kg/cm<sup>2</sup> (152,000 psi)  
Excellent water washout resistance  
Non-fling, clinging lubricant  
Low coefficient of friction  
Low environmental impact  
Fortified with graphite and molybdenum disulfide  
NSF Registered



### APPLICATIONS

Smelting  
Forging  
Metal refining  
Chemical plants  
Petrochemical plants  
Foundries

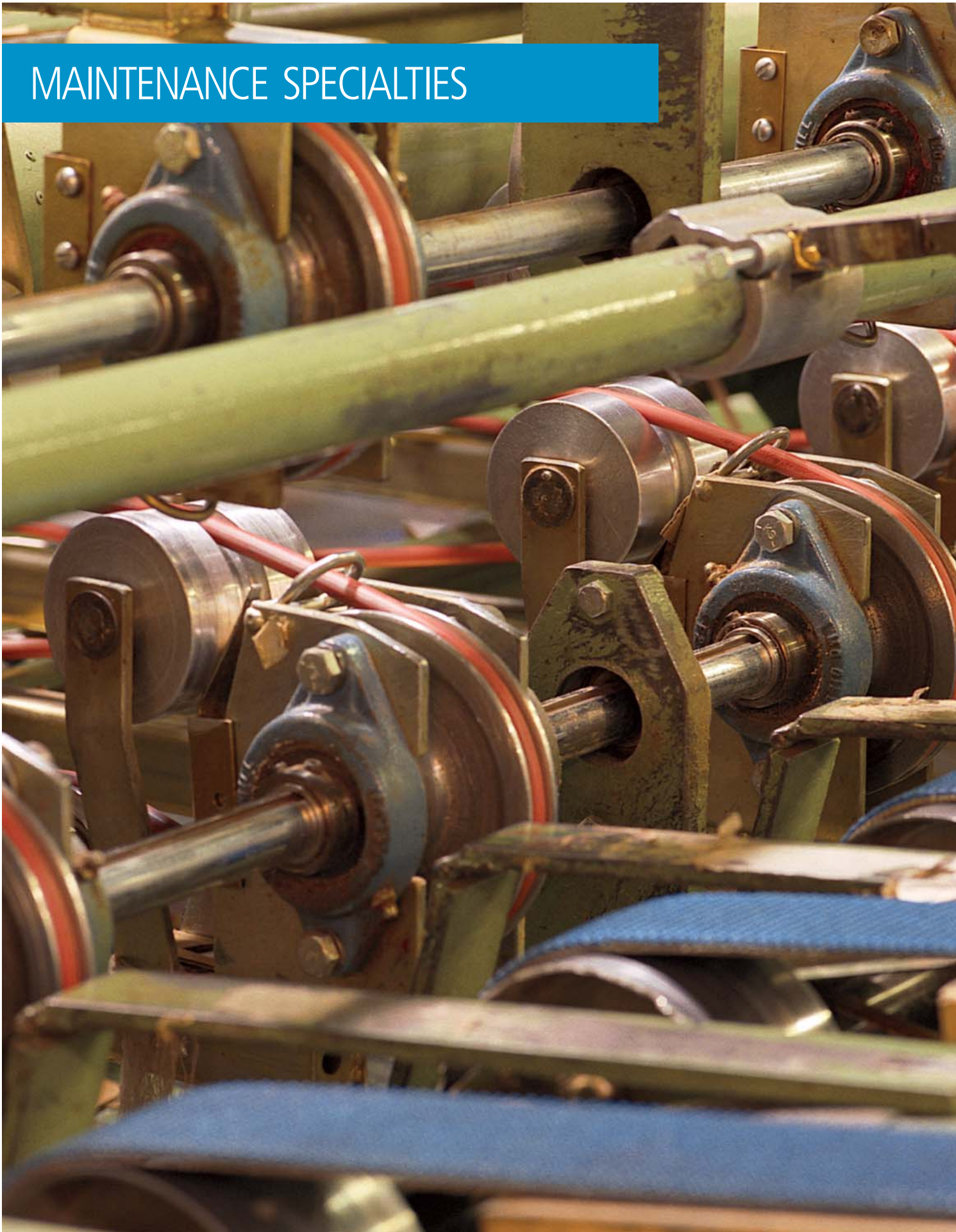
### Other

Wire ropes  
Crane cables  
Railroad switch gear  
Open gears  
Rack and pinion tracks

CONTAINER SIZE 787	REORDER NUMBER
500 Gram Brush Top	086803
1 Gallon/3.8 Liter	086805
20 Liter	086806



# MAINTENANCE SPECIALTIES





710

## ANTI-SEIZE COMPOUND

*High temperature, extreme pressure, corrosion resistant anti-seize compound and assembly lubricant. Formulated blend of copper, aluminum, and graphite seals and protects metal parts.*

### PRODUCT CHARACTERISTICS

Eases disassembly up to 1100°C (2012°F)  
Meets MIL-A-907D  
Maintains electrical conductivity between surfaces  
On U.S. Navy qualified products list: QPL-907  
NSF Registered  
Retards pitting  
Saves threads and parts for reuse by guarding against galling damage and breakage during opening



CONTAINER SIZE	REORDER NUMBER
710	
500 Gram Brush Top	082309
1 Gallon/3.8 Liter	086851
20 Liter	082311

### APPLICATIONS

Refineries  
Steel Mills  
Mining  
Chemical and petroleum  
Utilities  
Vehicles/Transportation  
Marine  
Valves  
Threaded assemblies  
Press fit bushings  
Bearing fits  
Pump sleeves  
Forge presses  
Hydraulic equipment  
Heat exchangers  
Reactor towers

### NOTE

Chesterton's 725 Nickel Anti-Seize Compound or 785 Parting Lubricant is recommended on stainless steel and in aggressive acid or alkaline environments

725

## NICKEL ANTI-SEIZE COMPOUND

*A high performance, nickel based anti-seize. Combines the extreme pressure, corrosion resistant anti-seize abilities of colloidal nickel, in an oil suspension that can withstand temperatures up to 1425°C (2597°F).*

### PRODUCT CHARACTERISTICS

Water resistant; ultra fine particles  
Eases mechanical assembly and disassembly up to 1425°C (2597°F)  
Balanced coefficient of friction eliminates torque recalculations  
Guards against galling and corrosion protects against self-welding  
Meets MIL-A-907F  
Withstands extreme pressure  
NSF Registered  
Applicable where copper use is prohibited



CONTAINER SIZE	REORDER NUMBER
725	
Aerosol	082351
250 Gram Brush Top	081266
500 Gram Brush Top	082359
1 Gallon/3.8 Liter	086855
20 Liter	082349

### APPLICATIONS

Automotive  
Chemical industries  
Foundries  
Utilities  
Refineries

### Mechanical assembly of

Bolts, studs, flanges, pressfits, valve stems, pump sleeves, screws, bushings, gaskets, bearings, etc.

### Use on

Steel  
Stainless steel  
Iron  
Aluminum  
Copper  
Brass  
Titanium

### CAUTION

Should not be used on oxygen systems

CONTAINER SIZE	REORDER NUMBER
772 PREMIUM NICKLE ANTI-SEIZE	
100 Gram Brush Top	080820
500 Gram Brush Top	082381

*783 combines high performance industrial anti-seize performance with extreme corrosion protection and water washout resistance. 783 is ideal where the primary cause of bolt seizure is corrosion.*

#### PRODUCT CHARACTERISTICS

Provides excellent protection of metal components under extreme conditions  
 Extreme corrosion protection and water washout resistance  
 Eases disassembly up to 900°C (1652°F)  
 Fills in microscopic voids  
 No toxic heavy metals  
 For extreme pressure  
   up to 8928 kg/cm<sup>2</sup> (127,000 psi)  
 Safer than traditional metallic based anti-seizes  
 Usable under most extreme conditions



#### APPLICATIONS

Marine  
 Offshore oil platforms  
 Chemical plants  
 Waste water  
 Mining industry  
 Metal Fabrication  
 Pulp and Paper

#### General

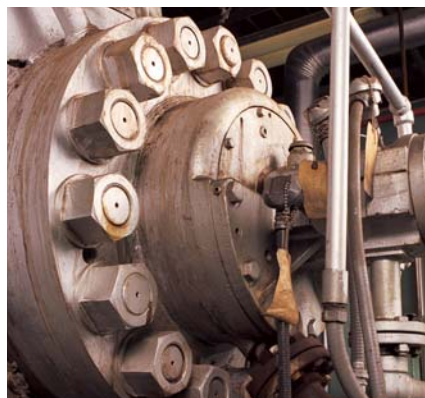
Bolts  
 Screws  
 Studs  
 Pipe threads  
 Press fits  
 Pump sleeves  
 Splines

CONTAINER SIZE 783	REORDER NUMBER
250 Gram Brush Top	082805
500 Gram Brush Top	088653
500 Gram Open Top	088771
20 Liter Pail	088654

*The "new generation" anti-seize compound contains a blend of ultrafine, inorganic solid lubricants in a non-carbonizing, ashless synthetic carrier. Withstands severe temperature and pressure conditions.*

#### PRODUCT CHARACTERISTICS

Provides excellent protection of metal components under extreme conditions  
 Eases disassembly up to 1204°C (2200°F)  
 Fills in microscopic voids  
 No toxic heavy metals  
 For extreme pressure  
   up to 4730 kg/cm<sup>2</sup> (67,570 psi)  
 Safer than traditional metallic based anti-seizes  
 Non-carbonizing  
 Usable under most extreme conditions  
 No need for torque tension recalculation  
 NSF Registered



#### APPLICATIONS

Power plants  
 Boiler rooms  
 Steel mills  
 Oil refineries  
 Marine applications  
 Chemical plants  
 Automotive industry

#### General

Bolts  
 Screws  
 Studs  
 Pipe threads  
 Press fits  
 Pump sleeves  
 Splines

CONTAINER SIZE 785	REORDER NUMBER
Aerosol	081664
200 Gram Tube	086907
250 Gram Brush Top	082016
500 Gram Brush Top	080747
24 Kilogram	080748

CONTAINER SIZE 785FG	REORDER NUMBER
200 Gram Tube	088506
500 Gram Brush Top	080788



*High quality, fast acting, penetrating oil reaches inaccessible areas and frees frozen nuts, bolts, and fittings without damaging the base metal.*

**PRODUCT CHARACTERISTICS**

Singular function  
Safe on plastic and painted surfaces  
Extremely low surface tension  
NSF Registered  
Contains no glycols, alcohols, DMSO (dimethylsulfoxide) or chlorinated solvents  
Pleasant odor  
No compromise – best possible penetration  
Creeps into microscopic spaces  
Chesterton Sprasolvo® is the same fast acting, penetrating oil in aerosol form

**APPLICATIONS**

**Use on all corroded or seized threaded assemblies**

Plumbing  
Machinery  
Trucks  
Pipelines  
Railroads  
Tractors  
Steam and gas fittings  
Valves and Pumps  
Drilling utilities  
Auto shops  
Ships

**NOTE**

Use Chesterton's 601 Chain Drive Pin & Bushing Lubricant when light lubrication is required and 775 Moisture Shield as a moisture displacing corrosion inhibiting coating

CONTAINER SIZE 706	REORDER NUMBER
1 Liter	081310
20 Liter	081312
208 Liter	081307

*Fast acting, penetrating oil in a convenient, non-flammable propellant aerosol can. Excellent for hard to reach areas where rust, tar, grease and dirt may prevent easy removal of nuts, bolts and fittings.*

**PRODUCT CHARACTERISTICS**

Singular function, pin point spray  
Safe on plastic and painted surfaces  
Extremely low surface tension  
NSF Registered  
723FG – Conforms to FDA standard 21CFR 172.884, 178.3620, 178.3650  
Contains no acids or chlorinated solvents  
Pleasant odor  
No compromise – best possible penetration  
Creeps into microscopic spaces

**APPLICATIONS**

Ships  
Drilling utilities  
Auto shops  
Railroads  
Pipelines  
Tractors  
Steam and gas fittings  
Trucks  
Machinery  
Valves  
Pumps

**NOTE**

FG designates a Food Grade Product  
Use Chesterton's 601 Chain Drive Pin & Bushing Lubricant when light lubrication is required and 775 Moisture Shield as a moisture displacing corrosion inhibiting coating

CONTAINER SIZE 723	REORDER NUMBER
Aerosol	081308

CONTAINER SIZE 723FG	REORDER NUMBER
Aerosol	083770

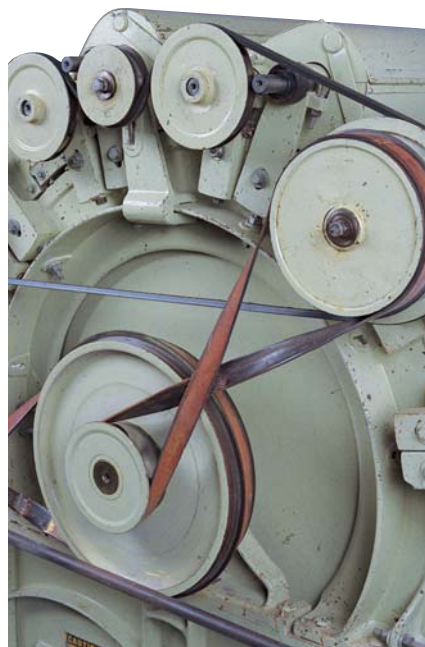
# 730

## SPRAGRIP®

*Superior energy efficient belt dressing in a convenient aerosol package. Lengthens life of leather, rubber, canvas or plastic belts; ends belt slippage for all V, flat and round belts.*

### PRODUCT CHARACTERISTICS

Eliminates slippage  
No glazing or hardening  
Pin point spray  
Contains no rosin, asphalt, oil or aggressive solvents  
Saves energy, restores mechanical efficiency  
Non-staining  
NSF Registered  
Collects less dirt, no build-up  
Preserves belts in inventory  
Waterproofs and prevents slipping even under the most humid conditions



CONTAINER SIZE	REORDER NUMBER
730	
Aerosol	080308

### APPLICATIONS

Belt drives  
Automotive equipment  
Industrial equipment  
Fans  
Package conveyors  
Conveyor belts  
Generators  
Pumps  
Compressors  
Indoor or outdoor applications  
Controls belt slippage due to moisture, dust, heat and cold  
Prevents degradation from U.V. rays, chemical fumes and water

# 800

## GOLDEND® TAPE

*Heavy duty, high density, tear resistant, moldable, dry PTFE sealant tape for use on metal or plastic threads, pipes or bolts.*

### PRODUCT CHARACTERISTICS

Temperatures from -240°C (-400°F) to 260°C (500°F)  
Seals tightly and opens easily  
UL listed  
Meets MIL-T-27730A  
NSF Registered  
DVGW approval No. 96.01e907  
Acceptable for oxygen use  
Non-aging, non-hardening  
Chemically resistant  
Requires fewer wraps  
Resists tearing and breakage  
Won't clog fuel lines  
Adjust fittings without leakage



### APPLICATIONS

#### Dry thread sealant for Liquids

Steam, water, salt water  
air, fuels, refrigerants, acids, alkalies, all solvents

#### Gases

Hydrogen, ammonia, oxygen, propane, butane, nitrogen

#### Other

Seals all plumbing and most industrial piping threads  
Pneumatic and hydraulic fittings up to 690 bar (10,000 psi)

### CAUTION

For nitric or mixed acid services, consult factory

CONTAINER SIZE	REORDER NUMBER
800 - Metric	
6,4 mm x 13,72 M	000805
12,7 mm x 4,57 M	000801
12,7 mm x 13,72 M	000802
12,7 mm x 32,92 M	000803
19,1 mm x 13,72 M	000804
25,4 mm x 13,72 M	000806

CONTAINER SIZE	REORDER NUMBER
800 - Inch	
1/4" x 540"	000805
1/2" x 180"	000801
1/2" x 540"	000802
1/2" x 1296"	000803
3/4" x 540"	000804
1" x 540"	000806



860

## MOLDABLE POLYMER GASKETING

*Two-part, extrudable gasketing material allows for the creation of ultra-thin gaskets in any size, any shape. Never sticks.*

### PRODUCT CHARACTERISTICS

Economical; material costs less than compressed sheet gasketing  
 Won't harden in tip  
 Can withstand temperatures up to 260°C (500°F)  
 Excellent resistance to oils, water, chemicals and solvents  
 Steam to 6.8 kg/cm<sup>2</sup> (100 psi) and 170°C (338°F)  
 Never sticks to surfaces; disassembles cleanly  
 Fills voids and scratches, up to 6 mm (1/4 inch) deep  
 Remains elastic, won't shred and clog lines  
 NSF Registered  
 Conforms to FDA standard 21CFR 175.300 and 177.2600



KITS	REORDER NUMBER
860	
Kit	086310
Toolbox kit	084883

### APPLICATIONS

#### For sealing complex mechanical assemblies

Gear boxes  
 Inspection covers  
 Transmissions  
 Bearing housings  
 Speed differentials

#### Sealing surfaces

Fittings, including thread fittings, hose clamps and o-ring fittings, and compression fittings  
 Oil sumps and reservoirs  
 Turbine casings  
 Electrical boxes  
 Vacuum systems

### CAUTION

Not for use in contact with concentrated acids or hot concentrated caustics

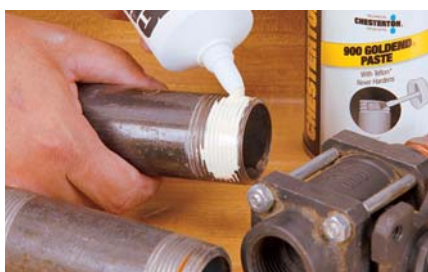
900

## GOLDEND<sup>®</sup> PASTE

*Non-hardening, non-corrosive, moldable PTFE thread sealant and lubricant for the most difficult of sealing demands on pipe joints, pneumatic fittings, and hydraulic line applications.*

### PRODUCT CHARACTERISTICS

Lubricates threads during assembly, seals tightly, opens easily  
 For use at temperatures up to 260°C (500°F)  
 Non-hardening  
 Non-corrosive  
 Non-toxic  
 No volatile solvents  
 NSF Registered  
 UL listed



### APPLICATIONS

#### Thread sealant and lubricant for Liquids

Water, salt water, fuels, refrigerants, acids, alkalies, solvents

#### Gases

Steam, air, propane, butane, nitrogen and ammonia\*\*

#### Other

Pneumatic and hydraulic fittings  
 Anti-seize sealing to 260°C (500°F)  
 Holds gasket in place during assembly

### NOTE

Not for use on liquid or gaseous oxygen

\*\* For nitric and mixed acid service, consult factory

CONTAINER SIZE	REORDER NUMBER
900	
200 Gram Tube	000908
250 Gram Brush Top	086852
500 Gram Brush Top	000909
20 Liter	000936

# 3500

## VALVELON®

*Unique multi-layered, 100% PTFE anti-extrusion construction sealant conforms to surface shapes. Ideal for valve packing and flange gaskets, withstands a wide range of temperatures and seals virtually all chemicals.*

### PRODUCT CHARACTERISTICS

Packs valves/Seals flanges  
Dense, wrapped construction conforms to fill voids, making a tight seal without cold flow extrusion  
Non-hardening  
Non-toxic  
Unlimited shelf life  
Reduces stem valve packing and gasket inventories  
Chemically inert  
Wide temperature range  
-240°C (-400°F) to 260°C (500°F)  
High tensile strength  
NSF Registered

### APPLICATIONS

Generally all substances within a pH range of 0 to 14  
Steam, salt water, air, refrigerants, sulfuric acid, hydrochloric acid, nitric acid, chromic acid  
Sodium hydroxide, potassium hydroxide, kerosene, gasoline, perchloroethylene, hydrogen, ammonia, fluorinated solvents  
Chlorine, propane, butane, nitrogen

### CAUTION

Do not use on liquid or gaseous oxygen, molten alkali metals and some rare halogenated compounds



CONTAINER SIZE 3500-Metric	REORDER NUMBER
2,4 mm x 15,3 M	003566
4,0 mm x 10,7 M	003570
5,6 mm x 4,6 M	003574
7,1 mm x 2,7 M	003578

CONTAINER SIZE 3500-Inch	REORDER NUMBER
3/32" x 50'	003566
5/32" x 35'	003570
7/32" x 15'	003574
9/32" x 9'	003578



# 989

## RELEASE COMPOUND

*A concentrated silicone release agent, formulated for use in mold applications operating at temperatures from 60°C (140°F) to 260°C (500°F) without sticking, spotting, or marking.*

### PRODUCT CHARACTERISTICS

Non-flammable  
Concentrated  
Contains no organic solvents  
No Freons<sup>†</sup>, CFC's, or halogenated compounds  
Maximum release without mold build up  
Will not oxidize or carbonize  
Enhanced worker safety  
Fewer costly rejects  
Environmentally safe  
Finer detail, high gloss finish  
Easy to apply

### APPLICATIONS

**Ideal for the following molding operations**

Sand core operations  
Investment casting  
Injection molding  
Thermosets  
Thermoplastics

### Suitable for

Acrylic  
Cellulosic(s)  
Polystyrene  
Polyester  
Polyurethane  
Rubber

<sup>†</sup> Registered trademark of E.I. du Pont de Nemours



CONTAINER SIZE 989	REORDER NUMBER
20 Liter	081693
208 Liter	081694







*Concentrated formulation for use in all mold applications.  
Up to 20% more releases per application, increases production rates,  
and reduces costly rejects.*

#### PRODUCT CHARACTERISTICS

Unique, complex silicone polymer  
Contains no CFC's, chlorinated solvents,  
or halogenated compounds  
Multiple releases per application  
No mold build up, leaves mold cleaner  
Easy to apply  
High gloss, wet look finish  
Fewer rejects  
Finer detail  
Faster cycling



#### APPLICATIONS

**Ideal for the following molding operations**

Sand core operations  
Investment casting  
Injection molding  
Thermosets  
Thermoplastics

#### Suitable for

Acrylic  
Cellulosic(s)  
Polystyrene  
Polyester  
Polyurethane  
Rubber

CONTAINER SIZE	REORDER NUMBER
995	

Aerosol	081675
20 Liter	081779
208 Liter	081860



# METALWORKING FLUIDS





# 380

## MACHINERY COOLANT

*Full synthetic, biodegradable, water soluble coolant.  
Excellent lubricity and heat dissipating properties extend tool life.*

### PRODUCT CHARACTERISTICS

High detergency  
Resists microbial attack  
Stable in hard water  
Easily removed with water,  
no solvents necessary  
Contains no petroleum or mineral oil  
Anti-corrosive  
Superior heat dissipation  
Concentrated, water dilutable  
Low drag out  
Excellent filterability  
For all metals except magnesium

### APPLICATIONS

Broaching  
Drilling  
Grinding  
Machining  
Milling  
Reaming  
Sawing  
Tapping  
Turning

### NOTE

For recommended dilutions, maintenance, clean-up, storage and waste disposal please consult the product data sheet. It is recommended that the reservoir be cleaned with Chesterton's 814 Sump Cleaner and Conditioner.



CONTAINER SIZE 380	REORDER NUMBER
20 Liter	080091
208 Liter	080175
1000 Liter Tote	083271

# 386

## GRINDING FLUID

*Premium synthetic coolant designed for all grinding applications.  
Excellent for high pressure delivery systems.*

### PRODUCT CHARACTERISTICS

Virtually non-foaming  
Fully synthetic, no petroleum oil  
Oil-free  
Provides highest "g-ratios"  
(metal removal/wheel loss)  
Clear transparent fluid  
Excellent corrosion inhibitor  
Superior heat dissipation  
Extends grinding wheel life  
Outstanding rancidity control  
High detergency minimizes wheel loading  
Prevents cobalt leaching  
Excellent settling of fines;  
provides best surface finishes  
Easily filtered; recyclable  
Biodegradable

### APPLICATIONS

High speed production grinding  
Tooling and cutting inserts  
Machine tools  
Shaft components  
Sharpening of cutters, saws and knife blades  
Honing cylinders  
Rams and rods  
Engine and valve parts

### NOTE

It is recommended that the reservoir be cleaned with Chesterton's 814 Sump Cleaner and Conditioner. For complete cleaning and maintenance instructions please consult the product data sheet.



CONTAINER SIZE 386	REORDER NUMBER
20 Liter	083091
208 Liter	083090
1000 Liter Tote	083906

# 388

## SYNTHETIC TAPPING FLUID



*Safe, pure synthetic formula for machining operations performed at high speed and feed rates, as well as manual or automatic single-shot cutting tool applications.*

### PRODUCT CHARACTERISTICS

- Ready to use
- Fluid, penetrates tight tolerances
- Metal fines do not stick
- Can be used with aluminum, and aluminum alloys
- Does not smoke, fume or mist
- Essentially odorless
- Biodegradable, contains no oil or solvents
- Excellent lubricity
- Superior heat dissipation
- Extends tool life
- Corrosion inhibited
- Contains no chlorine, sulfur, chlorinated hydrocarbons, petroleum oil, PCB's, nitrites, phenols, or mercurials



### APPLICATIONS

- Tapping
- Boring
- Reaming
- Threading
- Drilling
- Milling
- May be used in mist applications

### NOTE

Please consult the product data sheet for the suggested use metals listing, clean-up, storage and waste disposal information

CONTAINER SIZE	REORDER NUMBER
388	
475 Milliliter	081491
20 Liter	081492
208 Liter	081194

# 389

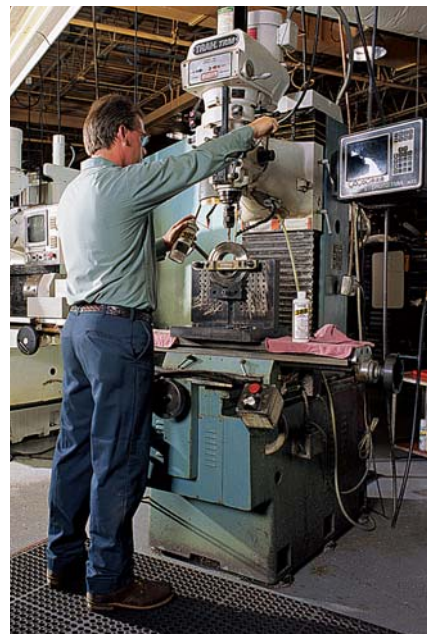
## SYNTHETIC TAPPING COMPOUND



*Provides the industrial performance of conventional petroleum and solvent based fluids with the superior lubrication of a synthetic, heat-dissipating formulation.*

### PRODUCT CHARACTERISTICS

- Ready to use
- Clinging, does not throw off
- Appearance and feel of petroleum oil
- Excellent lubricity
- Reduces galling
- Extends tool life
- Corrosion inhibited
- No chlorine, chlorinated hydrocarbons, or sulfur
- Does not smoke, fume, or mist
- Essentially odorless
- Biodegradable



### APPLICATIONS

- Tapping
- Boring
- Reaming
- Threading
- Drilling
- Milling

### NOTE

Please consult the product data sheet for the suggested use metals listing, clean-up, storage and waste disposal information

CONTAINER SIZE	REORDER NUMBER
389	
475 Milliliter	083431
20 Liter	083429



# 390

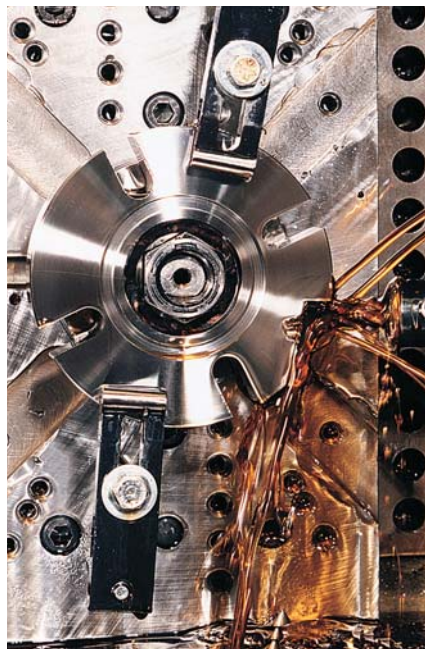
## CUTTING OIL

*High viscosity, oil-based lubricant reinforced for heavy duty machining applications.*



### PRODUCT CHARACTERISTICS

Use on hard or soft ferrous metals  
Powerful extreme pressure additives  
Provides maximum tool life  
Excellent part finish  
Clings to vertical and overhead surfaces  
Cleaner cuts, prevents metal to metal microwelding, galling and built-up edges  
Protects from rust  
No unpleasant odors  
NSF Registered



### APPLICATIONS

**A lubricant for all types of metal cutting and forming**

Broaching  
Boring  
Drilling  
Sawing  
Reaming  
Milling  
Tapping  
Countersinking

### NOTE

Tools and parts are easily cleaned with water-based degreasers such as Chesterton's 801 Industrial & Marine Solvent or solvent based products such as 274 Industrial Degreaser, please consult product data sheet for additional information

CONTAINER SIZE	REORDER NUMBER
390	
Aerosol	080102

# 395

## TAPPING LUBRICANT

*Non-corrosive, non-staining compound, which can be used on all metals including aluminum and aluminum alloys.*



### PRODUCT CHARACTERISTICS

High viscosity clings to tools  
Contains no chlorinated hydrocarbons  
Will not corrode aluminum or other soft metals  
Excellent lubricity for softer metals  
Improves cutting accuracy  
Clear, colorless, non-staining  
Pleasant mild odor  
Improves machinability, frees chip movement and reduces drag  
Stops galling; promotes a uniform cut  
Prolongs life of cutting tools  
Increases production rate  
NSF Registered



### APPLICATIONS

Tapping  
Threading  
Reaming  
Boring  
Milling  
Broaching  
Air mist applicators  
Acceptable for a variety of metals including aluminium alloys  
Excellent for aluminum mold fabrication and prototype machining

CONTAINER SIZE	REORDER NUMBER
395	
Aerosol	085201
20 Liter	085211

## OPTICOOL – 570

*Clear, stable, and long lasting microemulsions offer exceptional foam control, maximum sump life and are mild to the skin. Ideal for multi-task machining centers and multi-machining fluids standardization.*

### PRODUCT CHARACTERISTICS

Excellent cooling and lubricating properties  
Reduces mist and smoke inhalation hazards  
Excellent foam control  
Clean, pleasant working environment  
Extreme pressure capabilities  
Microbial resistant additive package extends sump life  
Leaves no slippery oil film  
Contains no nitrites, phenols, sulfur, mercurials, or formaldehyde

### APPLICATIONS

Sawing  
Tapping  
Drawing  
Broaching  
Reaming  
Threading  
Turning  
Grinding  
Stamping  
Milling

### NOTE

For complete directions on coolant dilutions, maintenance, clean-up and disposal please consult the product data sheet. It is recommended that the reservoir be cleaned with Chesterton's 814 Sump Cleaner and Conditioner.



CONTAINER SIZE 570	REORDER NUMBER
20 Liter	084029
208 Liter	084030
1000 Liter	084031



## OPTICOOL – 970

*New Generation DEA and Boron-Free formulation incorporates all the benefits of synthetic technology. Superior non-foaming ingredients, corrosion inhibitors, and extreme pressure additives offer a premier, multi-task, high-speeds and feeds metalworking fluid.*

### PRODUCT CHARACTERISTICS

Superior cooling properties  
Rejects tramp oil  
Excellent swarf settling and filterability  
Reduces heat and chip formation at high speeds and feeds  
Reduces odors associated with emulsion coolants  
No gummy residues  
Excellent corrosion protection for ferrous and yellow metals  
Bio-resistant package reduces microbial attack  
Allows for a cleaner work environment  
Contains no nitrites, phenols, sulfur, mercurials, or formaldehyde

### APPLICATIONS

Broaching  
Reaming  
Drilling  
Milling  
Sawing  
Tapping  
Drawing  
Threading  
Turning  
Grinding  
Stamping

### NOTE

For complete directions on coolant dilutions, maintenance, clean-up and disposal please consult the product data sheet. It is recommended that the reservoir be cleaned with Chesterton's 814 Sump Cleaner and Conditioner.



CONTAINER SIZE 970	REORDER NUMBER
20 Liter	084038
208 Liter	084039
1000 Liter Tote	084040





# PERFORMANCE ADDITIVES

## 075 COOLANT STABILIZER

An EPA-registered anti-microbial agent highly effective against bacterial and fungal contamination in metalworking fluids. Designed as a tank side additive for use with synthetic and semi-synthetic metalworking fluids.

## 080 SUMP CONDITIONER

A proprietary blend of alkaline compounds provides a reserved buffering capacity and pH control. In conjunction with the Chesterton coolant formulations, 080 Sump Conditioner can maintain optimum sump conditions, reducing corrosion, bacterial and fungus growth.

## 366 COOLANT DEFOAMER

A modified silicone emulsion is designed to provide synthetic and semi-synthetic metalworking fluids with immediate foam break when added to individual sumps, even in high-pressure systems

## 396 LUBRICITY ADDITIVE

A water soluble, complex, lubricating polymer to provide added lubricity in synthetic and semi-synthetic metalworking fluids when machining metals like aluminum, or in very fine threading operations.

## 814 SUMP CLEANER AND CONDITIONER

Versatile, highly concentrated, non-foaming, alkaline cleaner and conditioner specifically designed for the metal processing industry. Regular use at sump change outs eliminates contaminants and improves rancidity control. See section 1.6 for additional information.



CONTAINER SIZE	REORDER NUMBER
075	
500 Milliliter	081209

CONTAINER SIZE	REORDER NUMBER
080	
500 Milliliter	083851
1 Gallon/3.8 Liter	083849

CONTAINER SIZE	REORDER NUMBER
366	
500 Milliliter	081192

CONTAINER SIZE	REORDER NUMBER
396	
500 Milliliter	081680

CONTAINER SIZE	REORDER NUMBER
814	
20 Liter	083641
208 Liter	083642
1000 Liter Tote	080552

# CORROSION CONTROL

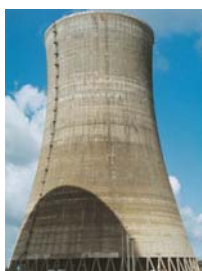




*Tough polymer coating seals, protects and beautifies old and new concrete, brick, rock, wood, and metal.*

#### PRODUCT CHARACTERISTICS

Dries in 3 - 4 hours  
 Can be used on new and old concrete  
 No acid etching required before use  
 Protects against mildew, bacteria, moisture, acid spills, rain, and pollution  
 Makes surface easy to clean  
 Can be applied to damp concrete  
 Clear, lustrous surface resists most chemicals, water, oil, and grease  
 No peeling or flaking  
 Will not discolor with age  
 Reduces dusting and deterioration of concrete floors  
 NSF Registered



#### APPLICATIONS

Concrete waste  
 water clarifiers  
 Concrete convection  
 cooling towers  
 Bridge supports  
 I-Beam footings  
 Spillways, dams

#### General

Concrete floors  
 Cement blocks  
 Stucco, brick, stone  
 walls, floors  
 Buildings, sidewalks,  
 aisle ways

#### NOTE

Do not apply  
 over previously  
 painted concrete

CONTAINER SIZE 415	REORDER NUMBER
1 Gallon/3.8 Liter	086103
20 Liter	086101
208 Liter	086105

# 421

## CLEAR PROTECTIVE COATING (CPC)

*General duty acrylic coating provides a clear, impermeable, flexible film to protect against air, water, oils, chemicals, and corrosion up to 80°C (176°F).*



### PRODUCT CHARACTERISTICS

- Transparent
- Non-yellowing
- High dielectric strength
- Oil resistant
- Water resistant
- Non-staining
- Quick-drying
- High gloss
- Resistant to fungus
- Protects copper, aluminum, and brass from forming dull oxide layer



### APPLICATIONS

- Metal machinery
- Tools
- Forms
- Paper signs
- Documents
- Drawings
- Connectors
- Electrical assemblies
- Electronic circuit boards
- Motor windings



CONTAINER SIZE  
421

Aerosol

REORDER NUMBER

084901

# 438

## PTFE COATING

*The best combination of a clean, dry, PTFE-based powder lubricant with a tough, long-term, protective coating that resists water and chemicals.*

### PRODUCT CHARACTERISTICS

- Specially designed for smooth non-porous surfaces
- Non-staining
- Dries instantly
- Non-oily, non-greasy
- Excellent chemical resistance
- Strong resistance to wash out
- Will not absorb or hold moisture
- Guards against sticking and material build-up
- Reduces lubricant costs
- Saves production time
- Reduces power consumption
- NSF Registered



### APPLICATIONS

- Metals
- Plastics
- Wood
- Leather
- Rubber
- Glass
- Painted surfaces
- Fiberglass
- Elastomers
- Instruments
- Machine tools
- Plastic bearings
- Cold molds
- Dies
- Inside bins, tanks, hoppers
- Paper converting equipment
- Woodworking shops

### CAUTION

On plastic or paint, test small area before using

CONTAINER SIZE  
438

Aerosol

REORDER NUMBER

082808



*Long-term, corrosion preventative coating provides heavy-duty metal protection for all areas constantly exposed to humidity and corrosive fumes, without critical surface preparation.*

#### PRODUCT CHARACTERISTICS

Easy to apply – easy to remove  
 Self-healing if scratched  
 Does not peel or flake  
 Provides up to two years corrosion protection under sheltered outdoor conditions  
 Conforms to MIL-C-161173D, Grade 1 and 4 (transparent only)  
 Excellent resistance to acid, alkali and salt air fumes  
 Available in transparent brown and opaque industrial grey  
 Product can be easily removed with Chesterton's 276 Electronic Component Cleaner or 274 Industrial Degreaser



#### APPLICATIONS

Metal tools

#### Parts in process

Machinery, tubing, castings, rods, jigs and fixtures

Stampings

Parts in storage

Pumps

Fittings

Valves

Hinges

Tanks

Indoor structural steel



CONTAINER SIZE 740 - TRANSPARENT BROWN	REORDER NUMBER
Aerosol	087702
1 Gallon/3.8 Liter	087705
20 Liter	087704
208 Liter	087707

# 752

## COLD GALVANIZING COMPOUND



*One part system zinc rich primer or protective topcoat for iron, steel, and welds exposed to atmospheric or corrosive conditions.*

### PRODUCT CHARACTERISTICS

Flexible, non-chipping, instantly galvanizing  
95% pure zinc in dried film  
Ultra fine particle size  
Fast drying, no heat required  
3-way corrosion protection  
Conforms to MIL-P-46105,  
MIL-P-21035 and MIL-P-26915



### APPLICATIONS

Steel and iron  
surfaces/structures  
Air conditioning units  
Agricultural machinery  
Automotive bodies  
Fences  
Marine equipment  
Metal roofs  
Mining equipment  
Structural steel tanks  
Transmission towers  
Underground pipelines  
Welds  
Ducts  
Decks



CONTAINER SIZE	REORDER NUMBER
752	
Aerosol	082601
2,7 Kilogram	082603

# 763

## RUST TRANSFORMER®



*A mild, natural, acid based product, electrochemically transforms rust into a corrosion-inhibiting surface.  
An excellent surface preparation alternative to sand blasting.*

### PRODUCT CHARACTERISTICS

Works only when in contact with rust;  
forms protective film  
Easy to apply  
No sandblasting  
Cleans up with water  
No strong acids  
No elaborate application equipment  
Biodegradable

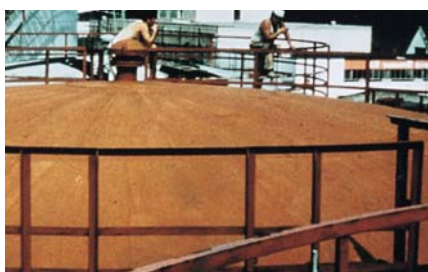


### APPLICATIONS

Storage tanks  
Auto or truck bodies  
Heavy equipment  
Bridges  
Transmission line towers  
Ships  
Piers  
Structural steel  
Marine  
Construction sites

### NOTE

Provides a good surface for application of Chesterton's 740 Heavy Duty Rust Guard



CONTAINER SIZE	REORDER NUMBER
763	
1 Gallon/3.8 Liter	089417
20 Liter	089418
208 Liter	089419



*Efficient, clear, moisture displacing and anti-corrosion protective film protects metal parts and equipment for months.*

#### PRODUCT CHARACTERISTICS

Transparent film  
Excellent corrosion protection  
Penetrates fine tolerances  
High dielectric strength  
Protects new metal from corrosion  
Easily removable with Chesterton's  
water based or solvent based cleaners  
Conforms to MIL-C-16173D  
corrosion preventative, Grade 3



#### APPLICATIONS

Parts in process  
Parts in transit  
Parts in storage  
Electrical systems  
Marine industry  
Dries out wet  
electrical parts

#### NOTE

Where long term protection is desired use Chesterton's 740 Heavy Duty Rust Guard

CONTAINER SIZE 775	REORDER NUMBER
Aerosol	082102
20 Liter	082110
208 Liter	082107

# ACCESSORIES

A collection of various automotive maintenance accessories. In the background, there are several spray bottles: a large white one labeled 'HydroFoamer', a blue one, and a red one. To the right is a blue box with a silver spray gun attached. In the center, there's a blue and red spray gun. In the foreground, there are several clear plastic hoses, a coiled yellow hose with 'GOODYEAR' and 'SPECTRA WASHDOWN BY' printed on it, a clear plastic hose with a metal fitting, a red-handled tool, a coiled metal spring, a yellow L-shaped fitting, a black-handled tool, and a clear plastic hose with a metal fitting. There are also some small metal parts and a clear plastic container labeled 'LUBRI-CUP'.



## ACCESSORIES

### NOVOSPRAYER II

The Chesterton Novosprayer II is a 475 milliliter (16 oz.), heavy duty, refillable, aluminum container designed to offer the convenience of an aerosol.

The Novosprayer II is easily pressurized with compressed air found in most industrial facilities. For filling ease, Chesterton also offers a filling/measuring device to eliminate the guess work when filling units from bulk containers. Please consult the product data sheet for product compatibility and additional information.



NOVOSPRAYER II	REORDER NUMBER
Container	083086
Filler/Measurer	709442
Repair Kits	709443

### ECONO-SPRAYER

A heavy duty refillable spray applicator for lubricants, solvents, cleaning compounds, coatings. The 0,95 liter (1 quart) sprayer is fully portable and uses your compressed air to pressurize the container. All-metal construction means the Econo-sprayer is built to last.

The Econo-sprayer comes with both jet stream and mist spray nozzles.



ECONO-SPRAYER	REORDER NUMBER
Chrome	080016
Enamel	080015

### 470 HAND HELD PROPORTIONER FOAM SPRAYER

Dilutes liquid chemical concentrates while spraying, creating a thick clinging foam. The unit, constructed of chemically resistant materials, is designed for general spray cleaning with water based cleaners; works strictly on water power. Eleven color coded pre-sized metering tips are provided for dilution ratios from 21: 1 to 256: 1.

The unit has a quick disconnect water hose fitting and trigger operated pistol grip control handle. A minimum water pressure of 1,4 kg/cm<sup>2</sup> (20 psi) is required to operate equipment. Constructed of chemically resistant materials for durability and long life.



470 HAND HELD PROPORTIONER	REORDER NUMBER
470	080048

## ACCESSORIES

### 208 DRUM MOUNTED LIQUID PROPORTIONER

Automatically dilutes liquid chemical concentrates with water to a pre-set concentration. Unit mounts directly on 110 or 208 liter (30 or 55 gallon) drums and discharges the diluted product directly into any container. Flow rate is 9,5 liters (2.5 gallons) per minute at 3,0 kg/cm<sup>2</sup> (40 psi). Maximum dilution range at 3,0 kg/cm<sup>2</sup> (40 psi) is 110 : 1, minimum is 1 : 1. No electricity needed to operate. A minimum water pressure of 1,4 kg/cm<sup>2</sup> (20 psi) is needed to operate the equipment. Economically and safely produces product at the desired dilution, eliminating the possibility of using too much chemical concentrate.

### 216 DRUM MOUNTED LIQUID PROPORTIONER

Has the same great features as the 208 drum with the option of either drum or wall mounting. Flow rates are increased to 37,1 liters (9.8 gallons) per minute at 3,0 kg/cm<sup>2</sup> (40 psi). Maximum dilution range at 3,0 kg/cm<sup>2</sup> (40 psi) is 1024 : 1, minimum is 5 : 1.



208 DRUM MOUNTED LIQUID PROPORTIONER	REORDER NUMBER
208	084923

216 DRUM MOUNTED LIQUID PROPORTIONER	REORDER NUMBER
216	080049

### 340 SPRAY WAND WITH LIQUID PROPORTIONER

Dilutes concentrated liquids while in use. Eight color coded pre-sized metering tips are provided for dilution ratios from 6 : 1 to 75 : 1. No electricity is required to operate. Water provides the energy to make the unit perform. Spray wand allows operator to reach inaccessible areas, to spray around corners and under and behind equipment, and to spray areas beyond their normal reach. The three way valve allows operator to control unit at the wand by choosing to spray, rinse, or shut the unit off. Units are constructed of plastic and chemical resistant metal for long life. A minimum of 1,4 kg/cm<sup>2</sup> (20 psi) water pressure is needed to operate equipment.



340 SPRAY WAND WITH LIQUID PROPORTIONER	REORDER NUMBER
340	080046

132 DISCHARGE HOSE	REORDER NUMBER
132	080047

### 132 DISCHARGE HOSE

This white, high pressure, heat resistant, and 7,6 m (25 feet) long hose, is a required accessory to connect the No. 340 spray wand to the liquid proportioner.



## ACCESSORIES

### DRUM PUMP

Dispenses liquids from Chesterton 110 and 208 liter (30 to 55 gallon) drums. Easily installed in the standard 5,1 cm (2") drum opening. Self-venting. The spigot orientation of 360° permits versatility in dispensing. Effortless operation by unique lever-action stroke. Delivers approximately 0,48 liters (10 ounces) per stroke, with the capability of 22,7 liters (6 gallons) per minute. Will handle the more viscous materials (equivalent of SAE #250 oil). Made of high quality non-corroding polypropylene.

**NOTE:** For dispensing of solvents use the metal drum pump.



DRUM PUMP	REORDER NUMBER
Polypropylene	080018
Stainless steel	709278



### DRUM FAUCETS 1,9 cm (3/4") and 5,1 cm (2")

Fits all standard 1,9 cm (3/4") and 5,1 cm (2") openings. Non-corroding polyethelene construction can handle thin or viscous fluids. Instant on/off control. No gaskets or inside threads to leak. No wrench necessary to install.



DRUM FAUCET	REORDER NUMBER
1,9 cm (3/4")	080019
5,1 cm (2")	080023

## ACCESSORIES

### CHESTERTON HEATED PARTS WASHER

Ideal for use with Chesterton's full range of environmental aqueous degreasers. Made of industrial strength ROTO-CAST thermoplastic, with a large 110 liter (30 gallon) reservoir to maximize fluid life. Powerful pump delivers 1140 LPH or 300 GPH of degreasing solution to parts. Ergonomically designed for optimum working height 91,44 cm x 63,5 cm x 25,4 cm (36" x 25" x 10") tank. Thermostatically controlled immersible heater, two-stage filtration: stainless steel strainer and 50 micron polypropylene string wound cartridge effectively removes contaminants/particulates. Units available in 110 volt and 220 volt, CE approved. Please contact your local representative for ordering and pricing information.



### LUBRI-CUP

An automatic, demand free, dispensing device designed to be used with Chesterton's high performance greases. The refillable unit prevents both over and under filling of bearing housings and saves labor downtime for re-lubricating and replacing costly bearings.

#### Construction:

Transparent polycarbonate

#### Reservoir capacity:

56,7 g (2 oz)

#### Dimensions:

Diameter 60,3 mm (2-3/8")

Height 117,5 mm (4-5/8")

#### Temperature limits:

-23°C (-10°F) to 121°C (250°F)

#### Connections:

1/8 NPT or 1/8 BSP



LUBRI-CUP	REORDER NUMBER
NPT Thread	086047
BSP Thread	083021



## ACCESSORIES

### ESS

An exclusive, innovative, and environmentally conscious, alternative to traditional aerosols. The Environmental Spray System (ESS) offers all the conveniences of an aerosol in a safe, cost effective, refillable form. Convenient kits require minimum set-up. Color coded containers and convenient product specific labels optimize inventory control. For additional information on product compatibility, set-up and maintenance instructions please contact your local representative.



ESS	REORDER NUMBER
1 + 1 System Kit*	083948

\* Items are available individually in Europe.

### MISCO REFRACTOMETER

Automatically temperature compensated for easy use in determining the total solids in aqueous solutions like Chesterton coolants and water based cleaners. The MISCO model 10441 scale is highly magnified and measures in brix unit from 0° to 10°, in 0.25° increments. The refractometer comes with a full 12 month warranty from MISCO.



MISCO REFRACTOMETER	REORDER NUMBER
Refractometer	709079

# TECHNICAL SPECIFICATIONS

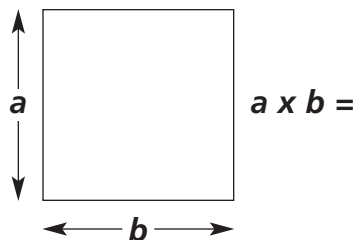




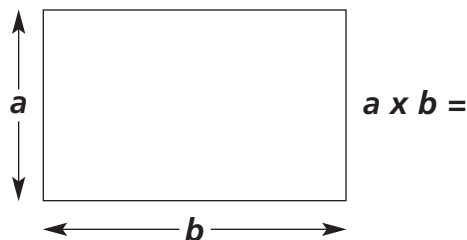
# CALCULATING SQUARE FOOTAGE

## TO CALCULATE

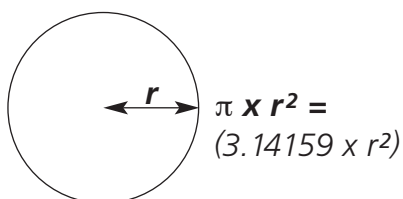
### The Area of a Square



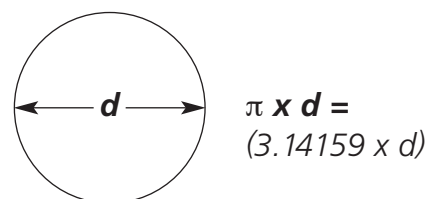
### The Area of a Rectangle



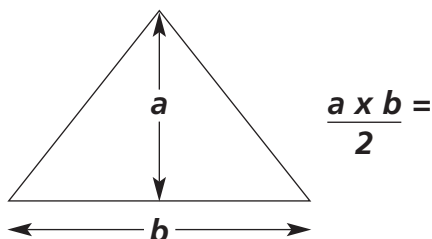
### The Area of a Circle



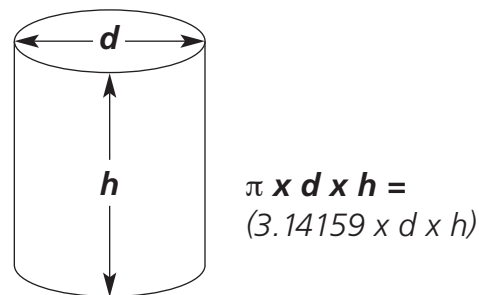
### The Circumference of a Circle



### The Area of a Triangle



### The Area of a Cylinder



# UNITS OF MEASURE

## GEOMETRIC FIGURES

Circle, area of =  $D^2 \times 0.7854 = \pi^2$

$r$  = radius

Circle, circumference of =  $\pi D$  or  $2\pi r$

Sphere, area of =  $\pi D^2$

Sphere, area of =  $4\pi r^2$

$D$  = diameter

Sphere, volume of =  $D^3 \times 0.5236$

Sphere, volume of =  $\frac{4}{3}\pi r^3$

Triangle, area of =  $\frac{1}{2}$  altitude  $\times$  base

Cone, volume of = area of base  $\times \frac{1}{3}$  altitude

Trapezoid, area of =  $\frac{1}{2}$  (sum of parallel sides)  $\times$  altitude

Pyramid, volume of = area of base  $\times \frac{1}{3}$  altitude

## MISCELLANEOUS CONSTANTS

$\pi$  = 3.14159

$e$  = 2.71828

$\log_e X = 2.30259 \log_{10} X$

Electronic charge =  $4.5 \times 10^{-10}$  e.s.u.

Electronic charge =  $1.60 \times 10^{-20}$  e.m.u.

Mass units =  $1.07 \times 10^{-3}$  x Mev

Mass units =  $6.71 \times 10^2$  x ergs

Speed of light =  $3 \times 10^8$  meter/sec.

Speed of sound (in air at sea level) = 1100 ft./sec.

# UNITS OF MEASURE

## MARINERS MEASURE

6 feet = 1 fathom  
120 fathoms = 1 cable length (U.S.N.)  
8.439 cable lengths = 1 nautical mile  
6076.12 feet = 1 nautical mile  
1 nautical mile = 1.15 statute mile (international)

## METRIC SYSTEM CONVERSION

Inches x .0254 = Meters  
Feet x .305 = Meters  
Yards x .914 = Meters  
Miles x 1609 = Meters  
Miles x 1.609 = Kilometers  
Millimeters x .03937 = Inches  
Centimeters x .3937 = Inches  
Meters x 39.37 = Inches  
Meters x 3.281 = Feet  
Meters x 1.094 = Yards  
Kilometers x .621 = Miles  
Square Centimeters x .155 = Sq. Inches  
Square Meters x 10.764 = Sq. Feet  
Square Meters x 1.186 = Sq. Yards  
Cubic Centimeters x .061 = Cubic Inches  
Cubic Inches x 16.2 = Cubic Centimeters  
Liters x .2642 = Gallons  
Gallons x 3.78 = Liters  
Cubic Meters x 1.308 = Cubic Yards  
Cubic Yards x .765 = Cubic Meters

## METRIC SYSTEM PREFIXES

Mega = 1,000,000  
Kilo = 1,000  
Hecto = 100  
Deka = 10  
Deci = 0.1  
Centi = 0.01  
Milli = 0.001  
Micro = 0.000001  
Tera (T) =  $10^{12}$   
Giga (G) =  $10^9$   
Nano (N) =  $10^{-9}$   
Pico (P) =  $10^{-12}$

## LENGTH

1 centimeter = 0.3937 inch  
1 centimeter = 0.0328 foot  
1 meter = 39.37 inches  
1 meter = 1.0936 yards  
1 kilometer = 0.62137 mile  
1 kilometer = 3280 feet  
1 inch = 2.54 centimeters  
1 foot = 0.3048 meter  
1 mil = 0.001 inch

## SQUARE MEASURE

1 sq. centimeter = 0.1550 sq. in.  
1 sq. meter = 1.196 sq. yd.  
1 sq. meter = 10.764 sq. ft.  
1 sq. kilometer = 0.386 sq. mile  
1 sq. inch = 6.452 sq. centimeters  
1 sq. foot = 929.03 sq. centimeters  
1 sq. foot = 0.092903 sq. meter  
1 sq. yard = 0.8361 sq. meter  
1 sq. mile = 2.59 sq. kilometers  
1 circular mil = 0.7854 sq. mils  
1 sq. inch = 1,000,000 sq. mils

## CUBIC MEASURE

1 cubic centimeter = 0.061 cubic inches  
1 cubic inch = 16.39 cubic centimeters  
1 cubic meter = 1.308 cubic yards  
1 cubic meter = 35.316 cubic feet  
1 gallon (U.S.) = 231 cubic inches  
1 cubic foot = 7.48 gallons  
1 liter = 1,000 cubic centimeters

## TIME

1 day = 86,400 seconds  
1 year = 8,760 hours (approximately)

## VELOCITY

1 ft./sec. = 0.3048 meter/sec.  
1 meter/sec. = 3.281 ft./sec.  
1 ft./min. = 0.00508 meter/sec.  
1 meter/sec. = 196.9 ft./min.  
1 mile/hr. = 0.4470 meter/sec.  
1 meter/sec. = 2.237 mile/hr.  
1 kilometer/hr. = 0.2778 meter/sec.  
1 meter/sec. = 3.60 kilometer/hr.

## ACCELERATION

1 ft./sec./sec. = 0.3048 meter/sec./sec.  
1 mile/hr./sec. = 0.4470 meter/sec./sec.  
1 kilometer/hr./sec. = 0.2778 meter/sec./sec.  
Standard gravitation = 9.806 meter/sec./sec.  
Standard gravitation = 980.6 centimeter/sec./sec.  
Standard gravitation = 32.2 ft./sec./sec.

## MASS

1 slug = 32.2 pounds mass  
1 slug = 14.606 kilograms  
1 pound mass = 453.6 grams

## FORCE

1 pound force = 1 slug x 1 ft./sec./sec.  
1 dyne = 1 gram x 1 centimeter/sec./sec.  
1 newton = 1 kilogram x 1 meter/sec./sec.  
1 pound force = 4.452 newtons  
1 newton = 100,000 dynes  
1 newton = 0.224 pound force  
1 gram force = 980.6 dynes

## PRESSURE

1 atmosphere = 14.69 pounds/sq. inch  
1 atmosphere = 29.92 inches of Hg  
1 atmosphere = 76 centimeters of Hg  
1 atmosphere = 33.9 feet of water  
1 inch of Hg = 0.491 pounds/sq. inch  
Water pressure pounds/sq. inch = head in feet x 0.434  
Hg (Mercury)

## TORQUE

Torque is the product of force and perpendicular distance  
1 lb./ft. = 1.356 newton/meter  
1 lb./ft. = 1.356 joule/radian  
1 lb./ft. =  $1.356 \times 10^7$  dynes/centimeter  
1 lb./ft. =  $1.383 \times 10^4$  grams/centimeter  
1 lb./ft. = 192 ounce/inches

## WORK AND ENERGY – MECHANICAL

1 erg = 1 dyne x 1 centimeter  
1 joule = 1 newton x 1 meter  
1 joule =  $10^7$  dynes x  $10^2$  centimeters  
1 joule =  $10^7$  ergs  
1 ft./lb. = 1 pound force x 1 foot  
1 ft./lb. = 1.356 joules

## WORK AND ENERGY – HEAT EQUIVALENT

1 Btu raises 1 pound of water 1°F  
1 gram calorie raises 1 gram of water 1°C  
1 Btu = 252 gram calories  
1 Btu = 778.3 ft./lb.  
1 Btu = 1054.8 joules  
1 gram calorie = 0.003964 Btu  
1 gram calorie = 4.184 joules  
1 horsepower hour = 2545 Btu

## WORK AND ENERGY – ELECTRICAL EQUIVALENT

1 joule = 1 watt x 1 second  
1 joule = 1 amp (DC) x 1 volt (DC) x 1 sec.  
W (joules) =  $1/2 L$  (henries) x  $1$  (amperes)<sup>2</sup>  
W (joules) =  $1/2 C$  (farads) x  $E$  (volts)<sup>2</sup>  
1 kilowatt hour = 3,600,000

## POWER

1 watt = 1 joule/sec.  
1 horsepower = 550 ft./lb./sec.  
1 horsepower = 746 watts  
1 watt = 3.413 Btu/hr.  
1 watt = 0.239 gram calorie/sec.  
P watts =  $R$  (ohms) x  $1$  (amperes)<sup>2</sup>  
P watts =  $\frac{E \text{ (volts)}^2}{R \text{ (ohms)}}$

## ANGLES

1 circle =  $2\pi$  radians  
1 circle = 360 degrees  
1 radian = 57.3 degrees  
1 degree = 0.01745 radians



## COMMON FRACTIONS REDUCED TO DECIMALS

8ths	16ths	32nds	64ths		8ths	16ths	32nds	64ths		8ths	16ths	32nds	64ths	
—	—	—	1	.015625	—	—	—	23	.359375	—	—	—	45	.703125
—	—	1	2	.03125	3	6	12	24	.375	—	—	23	46	.71875
—	—	—	3	.046875	—	—	—	25	.390625	—	—	—	47	.734375
—	1	2	4	.0625	—	—	13	26	.40625	6	12	24	48	.75
—	—	—	5	.078125	—	—	—	27	.421875	—	—	—	49	.765625
—	—	3	6	.09375	—	7	14	28	.4375	—	—	25	50	.78125
—	—	—	7	.109375	—	—	—	29	.453125	—	—	—	51	.796875
1	2	4	8	.125	—	—	15	30	.46875	—	13	26	52	.8125
—	—	—	9	.140625	—	—	—	31	.484375	—	—	—	53	.828125
—	—	5	10	.15625	4	8	16	32	.5	—	—	27	54	.84375
—	—	—	11	.171875	—	—	—	33	.515625	—	—	—	55	.859385
—	3	6	12	.1875	—	—	17	34	.53125	7	14	28	56	.875
—	—	—	13	.203125	—	—	—	35	.546875	—	—	—	57	.890625
—	—	7	14	.21875	—	9	18	36	.5625	—	—	29	58	.90625
—	—	—	15	.234375	—	—	—	37	.578125	—	—	—	59	.921875
2	4	8	16	.25	—	—	19	38	.59375	—	15	30	60	.9375
—	—	—	17	.265625	—	—	—	39	.609375	—	—	—	61	.953125
—	—	9	18	.28125	5	10	20	40	.625	—	—	31	62	.96875
—	—	—	19	.296875	—	—	—	41	.640625	—	—	—	63	.984375
—	5	10	20	.3125	—	—	21	42	.65625	8	16	32	64	1
—	—	—	21	.328125	—	—	—	43	.671875					
—	—	11	22	.34375	—	11	22	44	.6875					

## CONVERSION TABLE

MULTIPLY	BY	TO OBTAIN	MULTIPLY	BY	TO OBTAIN
Atmospheres	33.90	feet of water	Horsepower/hrs.	2545	Btu
	29.92	inches of mercury		$1.98 \times 10^6$	foot pounds
	14.69	pounds per sq. inch		$2.684 \times 10^6$	joules
Btu	252	calories (gram) (15°)	Inches of mercury	.03342	atmospheres
	778.3	foot pounds		1.133	feet of water
	.0003929	horsepower/hrs.		.4912	pounds per sq. inch
	1054.8	joules	Joules	.0009478	Btu
	.0002930	kilowatt/hrs.		.7376	foot pounds
Btu per min.	12.97	foot pounds per sec.		.0002778	watt hours
	.02357	horsepower		1.0	watt seconds
	17.58	watts	Kilowatt/hrs.	3413	Btu
Calories	.003968	Btu		$3.6 \times 10^{13}$	ergs
Erg	$9.478 \times 10^{-11}$	Btu	Lux	.0929	foot candles
	1.0	dyne centimeters	Meters	100	centimeters
	$7.376 \times 10^{-8}$	foot pounds		39.37	inches
Feet of water	.02950	atmospheres	Radians	57.3	degrees
	.8826	inches of mercury	Watts	.05689	Btu per min.
	.4335	pounds per sq. inch		$1.0 \times 10^7$	ergs per sec.
Foot pounds per sec.	.07712	Btu per min.		44.26	foot pounds per min.
	.001818	horsepower		.00134	horsepower
	.001356	kilowatts			
Foot candle	10.765	lux			
Horsepower	42.41	Btu per min.			
	33,000	foot pounds per min.			
	550	foot pounds per sec.			
	.7457	kilowatts			

# TEMPERATURE CONVERSION TABLE

TEMP. °C		TEMP. °F	TEMP. °C		TEMP. °F	TEMP. °C		TEMP. °F
-17.8	<b>0</b>	32.0	13.9	<b>57</b>	134.6	110	<b>230</b>	446
-17.2	<b>1</b>	33.8	14.4	<b>58</b>	136.4	116	<b>240</b>	464
-16.7	<b>2</b>	35.6	15.0	<b>59</b>	138.2	121	<b>250</b>	482
-16.1	<b>3</b>	37.4	15.6	<b>60</b>	140.0	127	<b>260</b>	500
-15.6	<b>4</b>	39.2	16.1	<b>61</b>	141.8	132	<b>270</b>	518
-15.0	<b>5</b>	41.0	16.7	<b>62</b>	143.6	138	<b>280</b>	536
-14.4	<b>6</b>	42.8	17.2	<b>63</b>	145.4	143	<b>290</b>	554
-13.9	<b>7</b>	44.6	17.8	<b>64</b>	147.2	149	<b>300</b>	572
-13.3	<b>8</b>	46.4	18.3	<b>65</b>	149.9	154	<b>310</b>	590
-12.8	<b>9</b>	48.2	18.9	<b>66</b>	150.8	160	<b>320</b>	608
-12.2	<b>10</b>	50.0	19.4	<b>67</b>	152.6	166	<b>330</b>	626
-11.7	<b>11</b>	51.8	20.0	<b>68</b>	154.4	171	<b>340</b>	644
-11.1	<b>12</b>	53.6	20.6	<b>69</b>	156.2	177	<b>350</b>	662
-10.6	<b>13</b>	55.4	21.1	<b>70</b>	158.0	182	<b>360</b>	680
-10.0	<b>14</b>	57.2	21.7	<b>71</b>	159.8	188	<b>370</b>	698
-9.4	<b>15</b>	59.0	22.2	<b>72</b>	161.6	193	<b>380</b>	716
-8.9	<b>16</b>	60.8	22.8	<b>73</b>	163.4	199	<b>390</b>	734
-8.3	<b>17</b>	62.6	23.3	<b>74</b>	165.2	204	<b>400</b>	752
-7.8	<b>18</b>	64.4	23.9	<b>75</b>	167.0	210	<b>410</b>	770
-7.2	<b>19</b>	66.2	24.4	<b>76</b>	168.8	216	<b>420</b>	788
-6.7	<b>20</b>	68.0	25.0	<b>77</b>	170.6	221	<b>430</b>	806
-6.1	<b>21</b>	69.8	25.6	<b>78</b>	172.4	227	<b>440</b>	824
-5.6	<b>22</b>	71.6	26.1	<b>79</b>	174.2	232	<b>450</b>	842
-5.0	<b>23</b>	73.4	26.7	<b>80</b>	176.0	238	<b>460</b>	860
-4.4	<b>24</b>	75.2	27.2	<b>81</b>	177.8	243	<b>470</b>	878
-3.9	<b>25</b>	77.0	27.8	<b>82</b>	179.6	249	<b>480</b>	896
-3.3	<b>26</b>	78.8	28.3	<b>83</b>	181.4	254	<b>490</b>	914
-2.8	<b>27</b>	80.6	28.9	<b>84</b>	183.2	260	<b>500</b>	932
-2.2	<b>28</b>	82.4	29.4	<b>85</b>	185.0	266	<b>510</b>	950
-1.7	<b>29</b>	84.2	30.0	<b>86</b>	186.8	271	<b>520</b>	968
-1.1	<b>30</b>	86.0	30.6	<b>87</b>	188.6	277	<b>530</b>	986
-0.6	<b>31</b>	87.8	31.1	<b>88</b>	190.4	282	<b>540</b>	1004
0	<b>32</b>	89.6	31.7	<b>89</b>	192.2	288	<b>550</b>	1022
0.6	<b>33</b>	91.4	32.2	<b>90</b>	194.0	293	<b>560</b>	1040
1.1	<b>34</b>	93.2	32.8	<b>91</b>	195.8	299	<b>570</b>	1058
1.7	<b>35</b>	95.0	33.3	<b>92</b>	197.6	304	<b>580</b>	1076
2.2	<b>36</b>	96.8	33.9	<b>93</b>	199.4	310	<b>590</b>	1094
2.8	<b>37</b>	98.6	34.4	<b>94</b>	201.2	316	<b>600</b>	1112
3.3	<b>38</b>	100.4	35.0	<b>95</b>	203.0	321	<b>610</b>	1130
3.9	<b>39</b>	102.2	35.6	<b>96</b>	204.8	327	<b>620</b>	1148
4.4	<b>40</b>	104.0	36.1	<b>97</b>	206.6	332	<b>630</b>	1166
5.0	<b>41</b>	105.8	36.7	<b>98</b>	208.4	338	<b>640</b>	1184
5.6	<b>42</b>	107.6	37.2	<b>99</b>	210.2	343	<b>650</b>	1202
6.1	<b>43</b>	109.4	37.8	<b>100</b>	212.0	349	<b>660</b>	1220
6.7	<b>44</b>	111.2	43.3	<b>110</b>	230	354	<b>670</b>	1238
7.2	<b>45</b>	113.0	48.9	<b>120</b>	248	360	<b>680</b>	1256
7.8	<b>46</b>	114.8	54.4	<b>130</b>	266	366	<b>690</b>	1274
8.3	<b>47</b>	116.6	60.0	<b>140</b>	284	371	<b>700</b>	1292
8.9	<b>48</b>	118.4	65.6	<b>150</b>	302	377	<b>710</b>	1310
9.4	<b>49</b>	120.2	71.1	<b>160</b>	320	382	<b>720</b>	1328
10.0	<b>50</b>	122.0	76.7	<b>170</b>	338	388	<b>730</b>	1346
10.6	<b>51</b>	123.8	82.2	<b>180</b>	356	393	<b>740</b>	1364
11.1	<b>52</b>	125.6	87.8	<b>190</b>	374	399	<b>750</b>	1382
11.7	<b>53</b>	127.4	93.3	<b>200</b>	392	404	<b>760</b>	1400
12.2	<b>54</b>	129.2	98.9	<b>210</b>	410	410	<b>770</b>	1418
12.8	<b>55</b>	131.0	100	<b>212</b>	413	416	<b>780</b>	1436
13.3	<b>56</b>	132.8	104	<b>220</b>	428	421	<b>790</b>	1454

**NOTE:**  
THE NUMBERS IN BOLD REFER TO THE TEMPERATURE EITHER IN DEGREES CENTIGRADE OR FAHRENHEIT WHICH IS DESIRED TO CONVERT INTO THE OTHER SCALE.

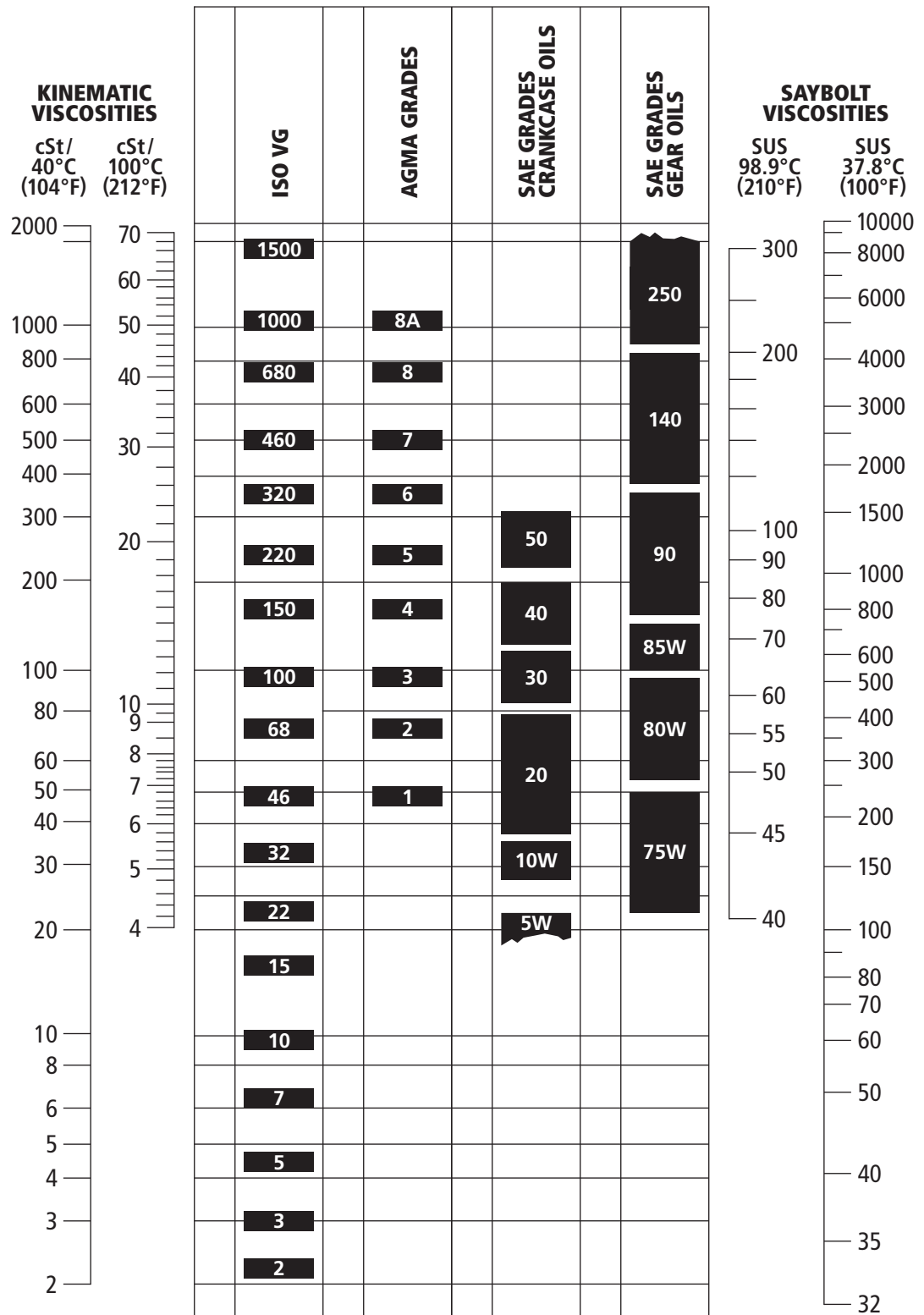


# TEMPERATURE CONVERSION TABLE

TEMP. °C	TEMP. °F	TEMP. °C	TEMP. °F	TEMP. °C	TEMP. °F
427	<b>800</b>	1472	743	<b>1370</b>	2498
432	<b>810</b>	1490	749	<b>1380</b>	2516
438	<b>820</b>	1508	754	<b>1390</b>	2534
443	<b>830</b>	1526	760	<b>1400</b>	2552
449	<b>840</b>	1544	765	<b>1410</b>	2570
454	<b>850</b>	1562	771	<b>1420</b>	2588
460	<b>860</b>	1580	777	<b>1430</b>	2606
466	<b>870</b>	1598	782	<b>1440</b>	2624
471	<b>880</b>	1616	788	<b>1450</b>	2642
477	<b>890</b>	1634	793	<b>1460</b>	2660
482	<b>900</b>	1652	799	<b>1470</b>	2678
488	<b>910</b>	1670	804	<b>1480</b>	2696
493	<b>920</b>	1686	810	<b>1490</b>	2714
499	<b>930</b>	1706	816	<b>1500</b>	2732
504	<b>940</b>	1724	821	<b>1510</b>	2750
510	<b>950</b>	1742	827	<b>1520</b>	2768
516	<b>960</b>	1760	832	<b>1530</b>	2786
521	<b>970</b>	1778	838	<b>1540</b>	2804
527	<b>980</b>	1796	843	<b>1550</b>	2882
532	<b>990</b>	1814	849	<b>1560</b>	2840
538	<b>1000</b>	1832	854	<b>1570</b>	2856
543	<b>1010</b>	1850	860	<b>1580</b>	2876
549	<b>1020</b>	1868	866	<b>1590</b>	2894
554	<b>1030</b>	1886	871	<b>1600</b>	2912
560	<b>1040</b>	1904	877	<b>1610</b>	2930
566	<b>1050</b>	1922	882	<b>1620</b>	2948
571	<b>1060</b>	1940	888	<b>1630</b>	2966
577	<b>1070</b>	1958	893	<b>1640</b>	2984
582	<b>1080</b>	1976	899	<b>1650</b>	3002
588	<b>1090</b>	1994	904	<b>1660</b>	3020
593	<b>1100</b>	2012	910	<b>1670</b>	3038
599	<b>1110</b>	2030	916	<b>1680</b>	3056
604	<b>1120</b>	2048	921	<b>1690</b>	3074
610	<b>1130</b>	2066	927	<b>1700</b>	3092
616	<b>1140</b>	2084	932	<b>1710</b>	3110
621	<b>1150</b>	2102	938	<b>1720</b>	3128
627	<b>1160</b>	2120	943	<b>1730</b>	3146
632	<b>1170</b>	2138	949	<b>1740</b>	3164
638	<b>1180</b>	2156	954	<b>1750</b>	3182
643	<b>1190</b>	2174	960	<b>1760</b>	3200
649	<b>1200</b>	2192	966	<b>1770</b>	3218
654	<b>1210</b>	2210	971	<b>1780</b>	3236
660	<b>1220</b>	2228	977	<b>1790</b>	3254
666	<b>1230</b>	2246	982	<b>1800</b>	3272
671	<b>1240</b>	2264	988	<b>1810</b>	3290
677	<b>1250</b>	2282	993	<b>1820</b>	3308
682	<b>1260</b>	2300	999	<b>1830</b>	3326
688	<b>1270</b>	2318	1004	<b>1840</b>	3344
692	<b>1280</b>	2336	1010	<b>1850</b>	3362
699	<b>1290</b>	2354	1016	<b>1860</b>	3380
704	<b>1300</b>	2372	1021	<b>1870</b>	3398
710	<b>1310</b>	2390	1027	<b>1880</b>	3416
716	<b>1320</b>	2408	1032	<b>1890</b>	3434
721	<b>1330</b>	2426	1038	<b>1900</b>	3452
727	<b>1340</b>	2444	1043	<b>1910</b>	3470
732	<b>1350</b>	2462	1049	<b>1920</b>	3488
738	<b>1360</b>	2480	1054	<b>1930</b>	3506

**NOTE:**  
THE NUMBERS IN BOLD REFER TO THE TEMPERATURE EITHER IN DEGREES CENTIGRADE OR FAHRENHEIT WHICH IS DESIRED TO CONVERT INTO THE OTHER SCALE.

# VISCOSITY EQUIVALENTS



- Viscosities can be related horizontally.
- Viscosities based on 95 VI single grade oils.
- ISO are specified at 40°C (104°F).
- AGMA are specified at 37.8°C (100°F).

- SAE 75W, 80W, 85W, 5W and 10W specified at low temperatures.
- Equivalent Viscosities for 100°C and 212°F are shown.
- SAE 90 and 250 and 20 to 50 specified at 98.9°C (210°F).



## KINEMATIC VISCOSITY/ISO SYSTEM

ISO GRADE	VISCOSITY RANGE cSt @ 38°C (100°F)	
2	1.98	2.42
3	2.88	3.52
5	4.14	5.06
7	6.12	7.48
10	9.00	11.00
15	13.50	16.50
22	19.80	24.20
32	28.80	35.20
46	41.40	50.60
68	61.20	74.80
100	90.00	110.00
150	135.00	165.00
220	198.00	242.00
320	288.00	352.00
460	414.00	506.00
680	612.00	748.00
1000	900.00	1100.00
1500	1350.00	1650.00

## HANDY GUIDE TO TAP DRILL SIZES

THREAD	TAP DRILL	THREAD	TAP DRILL
#6 – 32	No. 36	5/8 – 11	17/32
#6 – 40	No. 33	5/8 – 18	37/64
#8 – 32	No. 29	3/4 – 10	21/32
#8 – 36	No. 29	3/4 – 16	11/16
#10 – 24	No. 25	7/8 – 9	49/64
#10 – 32	No. 21	7/8 – 14	13/16
#12 – 24	No. 16	1 – 8	7/8
#12 – 28	No. 14	1 – 12	59/64
1/4 – 20	No. 7	1 – 14	15/16
1/4 – 28	No. 3		
5/16 – 18	F		
5/16 – 24	I		
3/8 – 16	5/16		
3/8 – 24	Q		
7/16 – 14	U		
7/16 – 20	25/64		
1/2 – 13	27/64		
1/2 – 20	29/64		
9/16 – 12	31/64		
9/16 – 18	33/64		

Based on approximate 75% full thread

# MATERIAL SELECTION CHART FOR CLEANERS

MATERIAL	CLEANER	PROCESS
Aluminum	Low alkaline*	Any, but caution should be exercised when ultrasonics are used because surface etching may occur
Copper	Moderate alkaline	Same as aluminum
Ferrous metals	Moderate alkaline	Any
Glass	Moderate alkaline	Any, but caution should be used with ultrasonics
Magnesium	Solvents only	Any
Mild steel	Moderate alkaline pH below 10 preferred	Any
Cold rolled steel	Moderate alkaline	Any
Painted surfaces	Low alkaline*	Any, but ultrasonics could affect adhesion
Plastics	Low alkaline	Any
Precious gems	Low alkaline caustic and solvent free	Ultrasonics preferred
304 stainless steel	High alkaline	Any
316 stainless steel	High alkaline	Any

\*Should check for compatibility before using



# THE MECHANICS OF CLEANING

Listed below are some of the most commonly used terms in aqueous cleaning.

An effective cleaner can utilize some or all of the following types of chemical reaction methods.

## Wetting

Surface Acting Agents commonly referred to as surfactants allow the cleaner to penetrate and loosen soils from the substrate by lowering the surface tension.

## Emulsification

After the surfactants have lowered the surface tension, the emulsifiers allow two mutually immiscible fluids like oil and water to be temporarily dispersed. The oil droplets get a thin coating of surfactant that prevent them from reforming and floating to the surface. Emulsions are usually temporary to allow the oil and water to split for easy disposal.

## Saponification

The reaction between a natural organic oil (like animal fat or vegetable oil) that contains reactive fatty acids with free alkalies to form soaps. This is a permanent reaction.

## Deflocculation

The process of breaking up large clumps of soil into fine particles and dispersing them throughout the cleaning solution. A good deflocculant will keep the soils dispersed thus preventing them from recombining or agglomerating.

## Sequestration

Prevents the formulation of soap scum and salt deposits by undesirable ions like calcium magnesium, and heavy metals by deactivating them.

## WHAT MAKES UP AN EFFECTIVE WATER BASED CLEANER?

Following are some of the key ingredients that make up effective water based cleaners, brief explanations of their functions and some examples.

## Surface Active Agents (Surfactants)

Basic component of water based cleaners

Lowers surface tension of water

Emulsifier, dispersant, soil suspender

Many different chemical families are considered surfactants including: sulfonates, esters, and nonyl phenols.

Can be naturally occurring or synthetic

Different ionic charges: anionic, cationic, or nonionic

## Builders

Alkaline substances

Enhance performance of surfactants

Buffer water

Improve soil suspension

Some examples are: trisodium phosphate, potassium phosphate, sodium silicate and sodium carbonate

## Grease Cutters

Water soluble organic solvents

Some examples are: alcohol, glycol ethers, like butyl cellosolve or emulsifiable solvents like terpenes or mineral spirits

## Alkali

Generally sodium hydroxide (NaOH) or potassium hydroxide (KOH)

Saponifies animal and vegetable oils

Neutralizes acids

Buffers water

Raises pH of cleaner (high alkaline)

Consumed in chemical reaction

## Chelates

Softens water

Example:

Ethylene diamine tetraacetate (EDTA)

In addition to the previous components, most aqueous cleaners need external help to be truly effective.

## Work

Needed in many cases

Examples:

Scrubbing, agitation, pressure, cavitation

## Heat

Accelerates chemical reactions

Reduces viscosity

# METHOD OF LUBRICATION

SHAFT DIAMETER	OPERATING TEMPERATURES		LUBRICANT RECOMMENDED	
	°C	°F	Oil Viscosity Sec. @ (100°F)	Greases NLGI Consistency Number
Up to 2.54 cm (1")	Below 0°	Below 32°	150 to 185	0 to 1
	0 to 37.8	32 to 100	250 to 350	1
	37.8 to 93.3	100 to 200	400 to 1000	2
	93.3	Over 200	1500 to 2500	2 to 3
1000 to 3000 rpm	Below 0°	Below 32°	150 to 185	0 to 1
	0 to 37.8	32 to 100	250 to 350	1
	37.8 to 93.3	100 to 200	400 to 600	2
	93.3	Over 200	700 to 1000	2
3000 to 10,000 rpm	Below 0°	Below 32°	90 to 120	0 to 1
	0 to 37.8	32 to 100	150 to 185	0 to 1
	37.8 to 93.3	100 to 200	250 to 350	1
	93.3	Over 200	500 to 1000	2
Over 10,000 rpm	Below 0°	Below 32°	33 to 85	0 to 1
	0 to 37.8	32 to 100	50 to 110	0 to 1
	37.8 to 93.3	100 to 200	75 to 250	1
	93.3	Over 200	350 to 550	2

SHAFT DIAMETER	OPERATING TEMPERATURES		LUBRICANT RECOMMENDED	
	°C	°F	Oil Viscosity Sec. @ (100°F)	Greases NLGI Consistency Number
2.54 cm to 5.08 cm (1" to 2")	Below 0°	Below 32°	150 to 185	0 to 1
	0 to 37.8	32 to 100	250 to 350	1
	37.8 to 93.3	100 to 200	400 to 1000	2
	93.3	Over 200	1500 to 2500	2 to 3
Up to 500 rpm	Below 0°	Below 32°	150 to 185	0 to 1
	0 to 37.8	32 to 100	250 to 350	1
	37.8 to 93.3	100 to 200	400 to 600	2
	93.3	Over 200	700 to 1000	2
500 to 1500 rpm	Below 0°	Below 32°	90 to 120	0 to 1
	0 to 37.8	32 to 100	150 to 185	0 to 1
	37.8 to 93.3	100 to 200	250 to 350	1
	93.3	Over 200	500 to 1000	2
1500 to 5000 rpm	Below 0°	Below 32°	33 to 85	0 to 1
	0 to 37.8	32 to 100	50 to 110	0 to 1
	37.8 to 93.3	100 to 200	75 to 250	1
	93.3	Over 200	350 to 550	2

SHAFT DIAMETER	OPERATING TEMPERATURES		LUBRICANT RECOMMENDED	
	°C	°F	Oil Viscosity Sec. @ (100°F)	Greases NLGI Consistency Number
5.08 cm to 7.62 cm (2" to 3")	Below 0°	Below 32°	150 to 185	0 to 1
	0 to 37.8	32 to 100	250 to 350	1
	37.8 to 93.3	100 to 200	400 to 1000	2
	93.3	Over 200	1500 to 2500	2 to 3
Up to 300 rpm	Below 0°	Below 32°	150 to 185	0 to 1
	0 to 37.8	32 to 100	250 to 350	1
	37.8 to 93.3	100 to 200	400 to 600	2
	93.3	Over 200	700 to 1000	2
300 to 1000 rpm	Below 0°	Below 32°	90 to 120	0 to 1
	0 to 37.8	32 to 100	150 to 185	0 to 1
	37.8 to 93.3	100 to 200	250 to 350	1
	93.3	Over 200	500 to 1000	2
1000 to 3000 rpm	Below 0°	Below 32°	33 to 85	0 to 1
	0 to 37.8	32 to 100	50 to 110	0 to 1
	37.8 to 93.3	100 to 200	75 to 250	1
	93.3	Over 200	350 to 550	2

# METHOD OF LUBRICATION

SHAFT DIAMETER	OPERATING TEMPERATURES		LUBRICANT RECOMMENDED	
	°C	°F	Oil Viscosity Sec. @ (100°F)	Greases NLGI Consistency Number
7.62 cm to 10.16 cm (3" to 4")	Below 0°	Below 32°	150 to 185	0 to 1
	0 to 37.8	32 to 100	250 to 350	1
	37.8 to 93.3	100 to 200	400 to 1000	2
	93.3	Over 200	1500 to 2500	2 to 3
200 to 750 rpm	Below 0°	Below 32°	150 to 185	0 to 1
	0 to 37.8	32 to 100	250 to 350	1
	37.8 to 93.3	100 to 200	400 to 600	2
	93.3	Over 200	700 to 1000	2
750 to 2000 rpm	Below 0°	Below 32°	90 to 120	0 to 1
	0 to 37.8	32 to 100	150 to 185	0 to 1
	37.8 to 93.3	100 to 200	250 to 350	1
	93.3	Over 200	500 to 1000	2
Over 2000 rpm	Below 0°	Below 32°	33 to 85	0 to 1
	0 to 37.8	32 to 100	50 to 110	0 to 1
	37.8 to 93.3	100 to 200	75 to 250	1
	93.3	Over 200	350 to 550	2
SHAFT DIAMETER	OPERATING TEMPERATURES		LUBRICANT RECOMMENDED	
	°C	°F	Oil Viscosity Sec. @ (100°F)	Greases NLGI Consistency Number
Over 10.16 cm (4")	Below 0°	Below 32°	150 to 185	0 to 1
	0 to 37.8	32 to 100	250 to 350	1
	37.8 to 93.3	100 to 200	400 to 1000	2
	93.3	Over 200	1500 to 2500	2 to 3
100 to 500 rpm	Below 0°	Below 32°	150 to 185	0 to 1
	0 to 37.8	32 to 100	250 to 350	1
	37.8 to 93.3	100 to 200	400 to 600	2
	93.3	Over 200	700 to 1000	2
500 to 1000 rpm	Below 0°	Below 32°	90 to 120	0 to 1
	0 to 37.8	32 to 100	150 to 185	0 to 1
	37.8 to 93.3	100 to 200	250 to 350	1
	93.3	Over 200	500 to 1000	2
Over 1000 rpm	Below 0°	Below 32°	33 to 85	0 to 1
	0 to 37.8	32 to 100	50 to 110	0 to 1
	37.8 to 93.3	100 to 200	75 to 250	1
	93.3	Over 200	350 to 550	2



# NSF CATEGORY CODE LETTERS

The following code letters designate the permissible use for each authorized compound, and conditions for use are restricted by the category in which it is placed.

**NOTE:** In several categories, reference is made to the need for rinsing with potable water. FIAD accepts water used in federally inspected plants as being potable when such certification is made by state health agency authorities.

## A. Cleaning Compounds

A1 – Compounds for use as general cleaning agents on all surfaces, or for use with steam or mechanical cleaning devices in all departments.

Before using these compounds, food products and packaging materials must be removed from the room or carefully protected.

After using these compounds, surfaces must be thoroughly rinsed with potable water.

A2 – Compounds for use only in soak tanks or with steam or mechanical cleaning devices in all departments.

Before using these compounds, food products and packaging materials must be removed from the room or carefully protected.

After using these compounds, all surfaces in the area must be thoroughly rinsed with potable water.

A3 – Acid Cleaners for use in all departments

Before using these compounds, food products and packaging must be removed from the room or carefully protected. After using these compounds, all surfaces in the area must be thoroughly rinsed with potable water.

A4 – Floor and Wall Cleaners for use in all departments.

Before using these compounds, food products and packaging materials must be removed from the room or carefully protected.

After using these compounds, all surfaces in the area must be thoroughly rinsed with potable water.

## C. Compounds used in Inedible and Non-processing Areas

C1 – Compounds for use on all surfaces in inedible product processing areas, non-processing areas, and/or exterior areas.

These compounds must not be used to mask odors resulting from unsanitary conditions.

They must be used in a manner that prevents penetration of any characteristic odor or fragrance into edible product areas.

Compounds containing isomers of dichlorobenzene, or other substances toxic by inhalation, may be used only in areas where there is adequate ventilation to prevent accumulation of hazardous vapors.

Permission for use of these compounds on loading docks and other similar areas is left to the discretion of the inspectors in charge of the plants.

## H. Lubricants

H1 – Lubricants

These compounds may be used as a lubricant or anti-rust film on equipment and machine parts in locations in which there is exposure of the lubricated part to edible products. They may also be used as a release agent on gaskets and seals of tank closures. The amount used should be the minimum required to accomplish the desired technical effect on the equipment. If used as an anti-rust film, the compound must be removed from the equipment surface by washing or wiping as required to leave the surface effectively free of any substance, which could be transferred to food being processed.

H2 – Lubricants

These compounds may be used as a lubricant, release agent, or anti-rust film on equipment and machine parts or in closed systems (e.g., hydraulic systems) in locations in which there is no possibility of the lubricant or lubricated part contacting edible products.

## K. Solvent Cleaners

K1 – Solvents and Solvent Degreasers for use in non-processing areas.

Following the use of these compounds, equipment and utensils must be thoroughly washed and rinsed with potable water before being returned to a processing area.

K2 – Solvents for cleaning electronic instruments.

These compounds are chemically acceptable for cleaning electronic instruments and devices that will not tolerate aqueous cleaning solutions. Before using these compounds, food products and packaging materials must be removed from the area or carefully protected. These compounds must be used in a manner so that all odors associated with the compound are dissipated before food products or packaging materials are re-exposed in the area.

## P. Compounds Requiring Letter Indicating Authorized Use

P1 – Miscellaneous

Compounds listed in this category are to be used in accordance with the conditions set forth in the letter of acceptance. Copies of the acceptance letter must be supplied to Federal Inspectors as proof of the acceptable use(s) of the compound.

# SPECIFICATIONS

## TECHNICAL PRODUCTS SPECIFICATIONS AND QUALIFICATIONS

PRODUCT	NSF	FDA	MILITARY/FEDERAL SPECIFICATION	OTHER
218 HDP	A1 133943	—	—	—
235 SSC	A4 133964	—	—	—
273 Electric Motor Cleaner	K2 133975 K2 133976	—	—	Underwriters Lab (UL) (Aerosol Only)
274 Industrial Degreaser	C1, K1, K2 133955 C1, K1, K2 133949 (aerosol)	178.3530	—	—
276 Electronic Component Cleaner	K2 133974 (bulk) K2 133973 (aerosol)	172.882 172.884 178.3530 178.3650	—	—
277 Metal Surface Degreaser	C1, K1 134007 (bulk) C1, K1 134008 (aerosol)	172.882 172.884 178.3530	—	—
279 PCS	K2 134012	—	—	German IGI250121/29
292 Precision Degreasing Solvent	K1, K2, K3 134003 K1, K2, K3 134004 (aerosol)	178.3530 178.3570	—	—
296 Electro Contact Cleaner	K2 134002	—	—	—
346 Descaler & Chemical Cleaner	A3 133962	—	—	—
360 Phosphate-Free Cleaner	A1, A4 133961	—	—	—
390 Cutting Oil	H2, P1 134014 H2, P1 134947 (aerosol)	—	—	—
395 Tapping Lubricant	H2 133935	—	—	—
415 Concrete Sealer	R2 134009	—	TT-C-800A TYPE I, CLASS 1	ASTM C-309 TYPE I Finland Potable Water 365/85, 364/85
421 Clear Protective Coating	—	—	TT-L-50G TYPE II	—
438 PTFE Coating	H2 133950 (aerosol) H2 133951 (bulk)	—	—	—
601 Chain Drive Pin & Bushing Lubricant	H2 133927 (aerosol) H2 133979 (bulk)	—	—	—
610 Synthetic Lubricating Fluid	H2 133972 (aerosol) H2 133971 (bulk)	—	—	—
615 HTG #1	H2 133941	—	—	—
615 HTG #2	H2 133940	—	—	—
622 White Grease	H1 133929	178.3570 177.1550	—	—
625 CXF	H1 138414	178.3620 178.3570	—	—
629 High Temperature White Grease	H1 133936	178.3570 177.1550	—	—
630 SXCF	H1 138415	178.3570	—	—
651 Detergent Lubricating Oil	H2 133946 (bulk) H2 133928 (aerosol)	—	—	—
652 Pneumatic Lubricant & Conditioner	H2 133944	—	—	—
660 Silicone Lubricant	H1 133970 (aerosol) H1 133932 (bulk)	181.28 178.3910 178.3570 178.884 178.3650	—	—
690FG Lubricant	H1 133933 (aerosol) H1 133969 (bulk)	178.3620	—	—

# SPECIFICATIONS

## TECHNICAL PRODUCTS SPECIFICATIONS AND QUALIFICATIONS

PRODUCT	NSF	FDA	MILITARY/FEDERAL SPECIFICATION	OTHER
706 Rustsolvo®	H2 133942	—	—	—
710 Anti-Seize Compound	H2 133958	—	MIL-A-907	QPL-907
715 Spraflex® Standard and Gold	H2 133938 H2 133934 (aerosol) H2 133930 (Gold) H2 133931 (Gold aerosol)	—	—	—
723 Sprasolvo® 723FG Sprasolvo®	H2 133939 H1 134006 (FG)	— 172.884 178.3620 178.3650 178.3570	—	—
725 Nickel Anti-Seize Compound	H2 133959	—	MIL-A-907	—
730 Spragrip®	P1 133947	—	—	—
740 Heavy Duty Rust Guard	—	—	MIL-C-16173D Grade 1 & 4	—
752 Cold Galvanizing Compound	—	—	MIL-P-46105 MIL-P-26915 MIL-P-21035	—
775 Moisture Shield	H2 134015	—	MIL-C-81309D TYPE II MIL-C-16173D TYPE III	—
785 Parting Lubricant (Bulk)	H2 133960	—	DVGW	—
785 FG Parting Lubricant	H1 132237	—	—	—
787 Sliding Paste	H2 133956	—	—	—
800 GoldEnd® Tape	H1, P1 134016	177.1615 177.1550	MIL-T-27730A	Underwriters Lab USA (UL) Canada (ULC) DVGW 96.01e907 EN751-3 OXYGEN CERTIFIED, BAM Ref. No. 11.1/46 513
801 Industrial & Marine Solvent	A1, A4, A8 133965	—	—	—
803 Industrial & Marine Solvent II	A1 133966	—	—	—
KPC 820	A1 133963	—	—	—
KPC 820N	A1, A4 133977	—	—	—
860 Moldable Polymer Gasketing	P1 134017 (aerosol) P1 134018 curing	175.300 177.2600	—	—
900 GoldEnd® Paste	H2, P1 133957	—	—	Underwriters Lab (UL)
3500 Valvelon®	P1 134013	—	—	—



# GLOSSARY OF TERMS

## ACGIH TLV

The American Conference of Government Industrial Hygienists (ACGIH) Threshold Limit Values (TLV) are 8-hour Time-Weighted Average (TWA) concentrations which should not be exceeded. Concentrations are given in parts per million (ppm) or milligrams per cubic meter (mg/m<sup>3</sup>). The higher the TLV, the safer the substance.

## API

American Petroleum Institute.

## AGMA

American Gear Manufacturers Association.

## Aromatic content

A major group of unsaturated cyclic hydrocarbons containing one or more rings, typified by benzene, which has a 6-carbon ring containing three double bonds. The vast number of compounds of this group, derived chiefly from petroleum and coal tar, are rather highly reactive and chemically versatile. The name is due to the strong and not unpleasant odor characteristics of most substances of this nature. Since most aromatics tend to have high toxicity and many are considered carcinogenic, therefore, low aromatic contents are desirable in solvents.

## Asperities

The irregular features in a contact surface.

## ASTM

American Society for Testing and Materials.

## Axial

Referring to the length of an object, for example an axial load on a shaft is parallel to the length (axis) of that shaft.

## Boundary Lubrication

That condition in which the lubricant film is discontinuous.

## Babbitt

An alloy, or mixture of metals that is softer than the metal used in the rotating components. It has a lower coefficient of friction and acts as a sacrificial component in the moving assembly; it will not gall or score the shaft. It is named for its inventor.

## CAS#

Chemical Abstracts Registry Number.

A division of the American Chemical Society that publishes a chemistry journal and assigns numbers to all chemical compounds.

## Coefficient of Friction

The coefficient of friction is the ratio of the force required to move an object and the normal force or weight of an object. The coefficient of friction is dependent upon the nature of the material. Some coefficients of friction for various materials are:

- Bronze on bronze – 0.20
- Tool steel on tool steel – 0.42
- Mild steel on mild steel – 0.57
- Hard steel on babbitt metal – 0.34

## Cone

The inner part of an antifriction bearing.

## Elastohydrodynamic Lubrication

A mode of lubrication which relies on the deformation of the contact surfaces in conjunction with the viscosity of an oil at high speeds to establish a protective film.

## EPA 17

The United States Environmental Protection Agency's voluntary toxics reduction incentive program, the "33/50" program, calls for a voluntary nationwide reduction of toxic waste. The goal is a 33% reduction by 1992 for on-site and off-site releases and a 50% reduction by 1995.

The program asks companies to voluntarily reduce pollution caused by 17 high priority toxic chemicals.

This is a pollution prevention strategy to reduce threats to public health and the environment.

### The 17 chemicals were chosen on the basis of 3 criteria:

- They pose environmental and health concerns.
- They are high volume industrial chemicals.
- They can be reduced through pollution prevention.

### The 17 chemicals are:

Benzene, cadmium & compounds, carbon tetrachloride, chloroform, chromium & compounds, cyanides, lead & compounds, mercury & compounds, methyl ethyl ketone, methyl isobutyl ketone, methylene chloride, nickel & compounds, tetrachloroethylene, toluene, trichloroethane, trichloroethylene, xylenes.

## Flammability rating

When and where possible, the flammability of a substance was determined and listed.

### The following OSHA criteria (29 CFR 1910.106) were used to classify flammable or combustible liquids:

- Class IA flammable liquid Fl.P below 73°F (22.8°C) and BP below 100°F (37.8°C)
- Class IB flammable liquid Fl.P below 73°F (22.8°C) and BP at or above 100°F (37.8°C)
- Class IC flammable liquid Fl.P at or above 73°F (22.8°C) and below 100°F (37.8°C)
- Class II combustible liquid Fl.P at or above 100°F (37.8°C) and below 140°F (60°C)
- Class IIIA combustible liquid Fl.P at or above 140°F (60°C) and below 200°F (93.3°C)
- Class IIIB combustible liquid Fl.P at or above 200°F (93.3°C)

# GLOSSARY OF TERMS

## Flash point

The temperature at which a liquid or volatile solid gives off sufficient vapor to form an ignitable mixture with the air nearest the surface of the liquid or within the test vessel.

All measurements listed on this chart are by closed cup method unless otherwise stated. (TOC is Tag Open Cup)

## Fretting

A condition of wear characterized by grooving or lines spaced at intervals around a shaft. It can be caused by oscillating motion with small amounts of play (approx. 1 micron) in the assembly. Usually design related.

## Galling

Destructive wear of a metal surface characterized by large chunks of metal being removed.

## Hydrodynamic Lubrication

That condition of lubrication in which a continuous film separates the moving parts.

## Idler

A rotating element neither driving nor driven. It is simply used as a low friction support for a chain or belt.

## IDLH

Immediately Dangerous to Life or Health concentrations (IDLH) represent the maximum concentration from which, in the event of respirator failure, one could escape within 30 minutes without a respirator and without experiencing any escape-impairing (e.g. severe eye irritation) or irreversible health effects. These values were determined during the Standards Completion Program only for the purpose of respirator selection. IDLH values that are in brackets denote substances that are considered to be carcinogenic by NIOSH (National Institute for Occupational Safety and Health). It should be noted that carcinogenic effects were not considered in the Standards Completion Program. No listing means that a value was not available due to lack of data.

## KB value

The Kauri Butanol (KB) value is a measure of the solvent power of a hydrocarbon liquid. Kauri gum is readily soluble in butanol but insoluble in hydrocarbons. The KB value is the measure of the volume of solvent required to produce turbidity in a standard solution containing kauri gum dissolved in butanol. The higher the KB value, the more powerful the solvent.

## Kinematic

Refers to viscosity measured by its rate of flow due to its mass.

## Lubricity

A property of a lubricant to reduce friction beyond that expected by viscosity alone.

## Naphthenic

Composed of compounds of a more cyclic and/or aromatic nature; low ashing.

## Paraffinic

Composed of long straight chains of hydrocarbons.

## Poise

A unit of dynamic (sheared between moving surfaces) viscosity measurement.

## Race

The outer contact surface of a rolling element bearing.

## Radial

Referring to something perpendicular to a rotating assembly; A radial load is at 90° to the shaft.

## Rib-roller velocity

The velocity of the rollers in an antifriction bearing which will help determine the lubrication requirements of a bearing.

## SAE

Society of Automotive Engineers.

## Shock loading

A condition caused by sudden start-up or stoppage of equipment. Change in loading is rapid and places added stress, on bearing and other parts.

## Solvent

A substance capable of dissolving another substance (solute) to form a uniformly dispersed mixture (solution) at the molecular or ionic size level.

## Spalling

A condition of metal fatigue in which the surface of the metal flakes off.

## Stoke

A unit of measurement for kinematic viscosity in units m<sup>2</sup>/sec.

## SUS

Saybolt Universal Second; yet another unit for measurement of fluid viscosity.

## Timken

Test method named for bearing manufacturer of the same name.

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## NOTES

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860 Salem Street  
Groveland, MA 01834 USA  
Telephone: 781-438-7000  
Fax: 978-469-6528  
[www.chesterton.com](http://www.chesterton.com)

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