Solvents, Degreasers, Metalworking

Solvent-based Products

A solvent can be **classified** several different ways.
Here are three common examples:

- **Natural vs. Petroleum**
  - Derived from living stuff vs pumped out of the ground
- **Reaction with Water**
  - Water Soluble or Emulsifiable or Non-Emulsifiable
- **Composition**
  - Halogenated or Non-Halogenated

Reactions with Water

Soluble or “Dissolves in Water”

- Butyl Cellusolve or “butyl” most popular solvent
- Alcohols (ethanol, methanol, IPA, etc.)
- Various Glycol Ethers

Reactions with Water

Emulsifiable or **“Suspends in Water”**

- Forms a milky looking liquid
- Great for Dilution or Rinsing Purposes

Reactions with Water

Non-Emulsifiable - will NOT mix with water (layers out)

For water-sensitive operations

- Must be allowed to dry or be helped by wiping or blowing

Solvent Composition: Halogenated

"Any solvent (not water) that contains a Halogen (Cl, Br, F, I)

Advantages:

- Excellent Degreasers
- Non-flammable
- Non-conductive
- Fast Evaporating
- No Residue

Disadvantages:

- Some are Ozone Depleters
- Some are Carcinogens
- Trichloroethylene - Degreasing
- Methylene chloride - Used in paint strippers
- Perchloroethylene - Degreasing and Dry Cleaning

Solvent Composition: Non-Halogenated

These include:

- Natural solvents
- Engineered petroleum solvents
- Petroleum solvents

Advantages:

- Good to excellent Degreasers
- Can be very inexpensive
- Generally non-conductive
- Can be fast evaporating
- Can be biodegradable

Disadvantages:

- Combustibility always a concern
- Fast evaporation means very flammable
- High flash point means slow evaporation

Important Solvent Properties

Points to consider when selecting a solvent:

Flash point

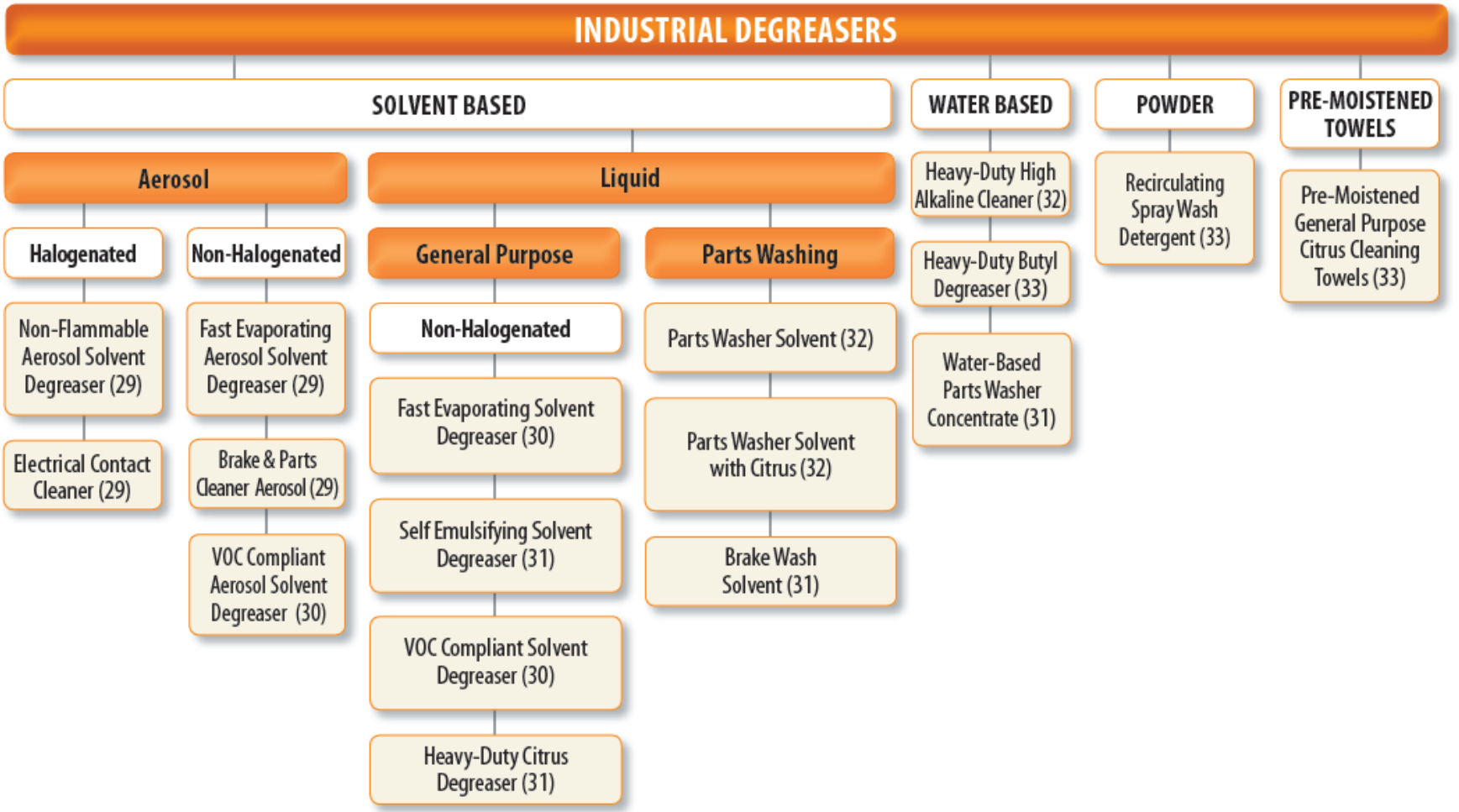
Residue

Evaporation rate

Flammability

Health Issues

Industrial Degreasers



Industrial Degreasers

Non-Flammable Aerosol Solvent Degreaser

Heavy-duty solvent degreaser and brake parts cleaner with a powerful jet spray. Instantly removes oil, grease, brake fluid, asbestos dust, and other soils. Dielectric strength of 36 Kv.

- Heavy-duty, aggressive cleaner/degreaser for the toughest soils
- Powerful jet nozzle helps blast off soil
- Non-conducting up to 36,000 volts (ASTM D-877)

Package: 20oz can
Mfg Model No: R12201
Grainger Item No: 4TML5

Electrical Contact Cleaner

Non-conductive , non-flammable, fast-evaporating and residue-free electrical component cleaner. Environmentally responsible alternative to ozone depleting formulations.

- Safe on most plastics
- Non-flammable and non-conductive
- Residue free
- Fast evaporating

Package: 15oz can
Mfg Model No: R10801
Grainger Item No: 4TML8

Brake & Parts Cleaner Aerosol

Formulated to remove asbestos dust, oil, grease, brake fluid and other soils from brake parts. Contains no chlorinated hydrocarbons.

- Fast evaporating, non-residual
- Quickly removes soil from brake parts
- No chlorinated hydrocarbons

Package: 20oz can
Mfg Model No: R19001
Grainger Item No: 4UZE4

Fast Evaporating Aerosol Solvent Degreaser

Industrial degreaser designed for use where fast evaporation and no residue are desirable.

- Fast, aggressive degreasing action
- No ozone-depleting compounds
- Non-emulsifying and residue-free

Package: 20oz can
Mfg Model No: R11901
Grainger Item No: 4TML4

VOC Compliant Aerosol Solvent Degreaser

Environmentally preferred, solvent-based degreaser with d-limonene meets CA-CARB and OTC requirements.

- Contains citrus solvent
- Moderate evaporation rate
- Meets CA-CARB and OTC requirements

Package: 20oz can
Mfg Model No: R20201
Grainger Item No: 4TML7

Parts Washer Solvent with Citrus

Petroleum solvent fortified with citrus to effectively remove soils. Pleasant orange fragrance.

- Fortified with citrus for added cleaning power
- Highly effective parts cleaner
- Pleasant citrus fragrance

Package: 5 gal pail
Mfg Model No: R19935
Grainger Item No: 4UZE8

Package: 55 gal drum
Mfg Model No: R19985
Grainger Item No: 4UZE9

Fast Evaporating Solvent Degreaser

Extra heavy-duty industrial degreaser designed for use where fast evaporation and no residue are desirable. Removes oil deposits, grease and tar from moving parts and mechanical equipment.

- Spray on, let dry
- Excellent on tough soils
- Completely residue free

Package: 1 gallon
Mfg Model No: R07524
Grainger Item No: 3HUV9

Package: 5 gal pail
Mfg Model No: R07535
Grainger Item No: 3HUW1

Package: 55 gal drum
Mfg Model No: R07585
Grainger Item No: 4TLJ1

VOC Compliant Solvent Degreaser

Environmentally preferred, solvent-based degreaser with d-limonene for use where a water-free formula is preferred. Meets all CA-CARB and OTC requirements.

- Apply, wipe off or let dry
- Slow evaporation for more contact time
- Can be used in applications where most solvents are restricted

Package: 1 gallon
Mfg Model No: R07824
Grainger Item No: 3HUW6

Package: 5 gal pail
Mfg Model No: R07835
Grainger Item No: 3HUW7

Industrial Degreasers

Heavy-Duty Butyl Degreaser

Industrial strength butyl formulation cuts through greases, oils, and other tough soils. Low foaming, free rinsing, biodegradable formula may be applied with a mop or pressure washer. Broad dilution range for a variety of applications.

- Dilute, apply, scrub, rinse
- Economical - dilutes up to 1oz/gal
- Effective on the toughest soils

Package: 1 gallon
Mfg Model No: R08824
Grainger Item No: 3HUX9

Package: 5 gal pail
Mfg Model No: R08835
Grainger Item No: 3HUY1

Package: 55 gal drum
Mfg Model No: R08885
Grainger Item No: 4TLH6

Pre-Moistened General Purpose Cleaning Towels

Heavy-duty towels with citrus cleaning power. Ideal for general purpose cleaning on a wide range of surfaces. Towels absorb surface soils. Fresh orange fragrance.

- Citrus cleaning power
- Safe on most surfaces
- Convenient, easy-to-use

Package: 72 towels per tub
Mfg Model No: R09201
Grainger Item No: 3HUY6

Brake Wash Solvent

Formulated to remove asbestos dust, oil, grease, brake fluid and other soils from brake parts. Contains no chlorinated hydrocarbons.

- Highly effective brake parts cleaner
- Quickly washes away grease & grime
- Fast evaporation, non-residual

Package: 5 gal pail
Mfg Model No: R18935
Grainger Item No: 4UZE3

Water-Based Parts Washer Concentrate

A blend of grease- and ink-cutting, water-based ingredients that reduces the concerns regarding combustibility, noxious odors, worker safety, atmospheric environmental pollution and disposal.

- Formulated for use in water-based parts washer systems
- Industrial grade
- Reduces environmental concerns

Package: 5 gal pail
Mfg Model No: R20435
Grainger Item No: 4UZF2

Package: 55 gal drum
Mfg Model No: R20485
Grainger Item No: 4UZF3

Self-Emulsifying Solvent Degreaser

Concentrated, rinseable, general-purpose solvent cleaner. Composed of grease fighting solvents and emulsifiers. Works well on both heavy and light cleaning such as engines, machinery and oil soaked floors. May be diluted before use. Low odor formulation suitable for indoor use.

- Apply, let stand, wipe or rinse away
- Will not cause corrosion
- Appropriate for indoor use

Package: 1 gallon
Mfg Model No: R07624
Grainger Item No: 3HUW2

Package: 5 gal pail
Mfg Model No: R07635
Grainger Item No: 3HUW3

Package: 20 gal drum
Mfg Model No: R07685
Grainger Item No: 4TML6

Heavy-Duty Citrus Degreaser

Organic, non-petroleum, cleaner and degreaser with d-limonene and soy for use on equipment and machinery. Utilizes renewable resources to cut through tough grease.

- Spray on, wipe or rinse off
- Excellent on equipment, machinery and concrete floors
- Economical, may be diluted up to 2oz per gal

Package: 1 quart
Mfg Model No: R07701
Grainger Item No: 3HUW4

Package: 1 gallon
Mfg Model No: R07724
Grainger Item No: 3HUW5

Parts Washer Solvent

Composed of a blend of quality, odorless solvents. Safe to use on all metals. Leaves light oil film on parts to protect against rust and corrosion.

- High quality blend of solvents
- Safe and effective for all metals
- Light oil film helps protect parts from rust

Package: 5 gal pail
Mfg Model No: R19835
Grainger Item No: 4UZE6

Package: 55 gal drum
Mfg Model No: R19885
Grainger Item No: 4UZE7

Heavy-Duty High Alkaline Cleaner

Concentrated, multi-purpose, low-foam, powerfully alkaline cleaner and degreaser for use in extra heavy-duty industrial cleaning applications. May be applied with mop, brush, or pressure washer. Caustic formulation acts fast on most industrial cleaning applications.

- Dilute, apply rinse away
- Economical, dilutes up to 1 to 100
- Designed for the toughest soils

Package: 1 gallon
Mfg Model No: R08624
Grainger Item No: 3HUX5

Package: 5 gal pail
Mfg Model No: R08635
Grainger Item No: 3HUX6

Package: 55 gal drum
Mfg Model No: R08685
Grainger Item No: 4TLH3

Metal Working

Z-Works PTFE Lubricant

Premium, long-lasting bulk lubricant. PTFE formulation penetrates rapidly to loosen parts frozen due to wear, corrosion, and grime buildup. Leaves behind a friction reducing film.

- Leaves a non-stick coating on moving parts
- Rapidly penetrates and lubricates
- Provides corrosion resistance

Package: 1 gallon
Mfg Model No: R07424
Grainger Item No: 3APH6

Z-Works Rapid Penetrant

Multi-purpose, fast-acting aerosol penetrant and lubricant that effectively displaces water. Applies to surface as yellow foam to ensure even application and adequate contact time. Silicone formulation prevents corrosion.

- Loosens frozen bolts
- Penetrates and lubricates
- Foaming formulation to assure proper application and contact time

Package: 24oz can
Mfg Model No: R07201
Grainger Item No: 3APH4

Z-Works Aerosol PTFE Lubricant

Premium, long-lasting aerosol lubricant. PTFE formulation penetrates rapidly to loosen parts frozen due to wear, corrosion, and grime buildup leaving behind a friction reducing film.

- Leaves a non-stick coating on moving parts
- Rapidly penetrates and lubricates
- Provides corrosion resistance

Package: 24oz can
Mfg Model No: R07001
Grainger Item No: 3APH2

Metal Protectant

Rust-resistant coating that dries to form a transparent, wax-type protective film of approximately 1 mm thick. Use indoors or outdoors on both ferrous and non-ferrous metal surfaces.

- Leaves a thick, transparent wax-like coating
- Resists rust
- Protects ferrous and non-ferrous metals
- For indoor or outdoor use

Package: 5 gal pail
Mfg Model No: R23335
Grainger Item No: 4UZF4

Z-Works Soy Penetrating Lubricant

Uses a renewable soy solvent to provide lasting lubrication while protecting against rust and corrosion. Excellent water displacing properties.

- Penetrates and lubricates
- Renewable resource formulation
- Protects against corrosion

Package: 24oz can
Mfg Model No: R07301
Grainger Item No: 3APH5

Z-Works High Pressure Lubricant

Designed for high-load applications, product adheres to surfaces to prevent lubricant squeeze out or spin off. Sprays on surfaces as a liquid to penetrate into tight areas and sets up as a gel. Effective in a wide range of temperatures and environments.

- Suitable for use in extreme temperatures
- USDA applicable
- Protects and lubricates surfaces

Package: 24oz can
Mfg Model No: R07101
Grainger Item No: 3APH3

Rust Converter

Converts existing rust and corrosion into a moisture-free, black protective coating. Treated surface is then ready for painting or other treatment without additional priming. USDA applicable, P1.

- Chemically reverses rust
- Forms a black protective coating
- Surface may be painted without additional priming
- Water-based & non-flammable

Package: 1 gallon
Mfg Model No: R23424
Grainger Item No: 4UZF5

Rust Remover

Concentrated acid product for removing rust, tarnish, oxides, soil and heat scale. No wire brushing or sand blasting needed. USDA applicable, A3.

- Effective acid formula removes tough rust, oxides and more
- Powerful, concentrated action
- No wire brushing or sand blasting needed

Package: 5 gal pail
Mfg Model No: R23535
Grainger Item No: 4UZF6