

Breakthrough® & Skysol™

MIL PRF-680 Type II & Type IV
QPL Listed materials
(respectively)



Replaced: Mineral Spirits, for equipment-based parts-cleaning

Application: Cleaning and degreasing of general parts in maintenance and production activity

Results: Using **Breakthrough®** as a replacement for Mineral Spirits provides a non-hazardous and odorless solvent that eliminates the generation of hazardous waste disposal



Mineral Spirits / NAPTHA / PD-680

Hazards:

- Benzene content (a known human carcinogen)
- Human toxicity concerns
- Chlorinated content
- Hazardous material
- Aggressive toxic odor



Typically used in:

- Buckets
- Dip tanks
- Other similar types of tanks

Mineral Spirits - The Problem as they saw it:

- Saturates with oil & grease quickly
- Ongoing use and waste after minimal usage
- Small micro-transaction costs that add up quickly
- Nearly as costly to dispose of due to hazardous waste costs



Typical dip tank station



Breakthrough® is:

- ✓ Non-hazardous in virgin state
- ✓ Safer with high flashpoint (150F / 65C)
- ✓ Has full Toxicity Clearance from the US Department of Defense (CCHPM)
- ✓ Odorless



The Edge-Tek™ Micro-Filtration System was developed for use on all Inland Technology equipment.

- Two-stage filtration
- 1st stage – 25 microns
- 2nd stage - .10 microns nominal
- Utilizes ‘torturous path’ filtration technology
- The 2nd stage filter is made from a media that is attractive to oil & grease



Solvent life-cycle was extended by two years versus conventional methodology through the development of self-recycling reclamation technology designed by Inland Technology.



 Weyerhaeuser





INLAND TECHNOLOGY INCORPORATED
TECHNICAL DATA SHEET



BREAKTHROUGH®

BREAKTHROUGH® is a benzene free, HAP free, state of the art solvent designed to help users break out of the tangle of regulations regarding emissions, disposal, and industrial health hazards. **BREAKTHROUGH®** is a virtually odorless, low toxicity, high-purity hydrocarbon that exhibits a very low degree of irritancy to the eyes and is non-irritating to the skin. It has a low vapor pressure to control Volatile Organic Compound (VOC) emissions, is non-carcinogenic, and is not regulated under SARA, Title III, Sections 302 or 313, CERCLA, and RCRA requirements. **BREAKTHROUGH®** has no listed components and characteristics of hazardous waste per the EPA; and worker exposure is not regulated by the OSHA Z-list.

BREAKTHROUGH® enjoys the following specifications:

BOEING AIRCRAFT COMPANY

- **BAC 5750** – General Solvent Cleaning on Boeing Aircraft.

CFM AIRCRAFT ENGINES

- **CP 2011 - BREAKTHROUGH®** is approved for all aircraft engine cleaning applications calling for PD-680 Type I and Type II.

GE AIRCRAFT ENGINES

- **C04-002 - BREAKTHROUGH®** is approved for all engine cleaning applications calling for PD-680 Type I and Type II.

PRATT & WHITNEY

- **PMC 9001 - BREAKTHROUGH®** approved to Engine Cleaning Specification.

ROLLS ROYCE AIRCRAFT ENGINES

- **BREAKTHROUGH®** is approved for all aircraft engine cleaning applications calling for PD-680 Type II.

BELL HELICOPTER

- Part Number **2110-07015** – General solvent cleaning on Bell Helicopter Aircraft.

SIKORSKY AIRCRAFT CORPORATION

- Part Number **08UTC-40588** – General cleaning on Sikorsky Aircraft.

DEPARTMENT OF DEFENSE

- TACOM – ACALA Maintenance Advisory Message No. 97-17, authorizes **BREAKTHROUGH®** for use on all small arms and aircraft armament systems.
- TACOM – Meets military Specification for MIL PRF-680, Type II.
- TB 43-0135 – Recommended substitute for ozone depleting substances used on communications-electronics equipment.

U.S. AIR FORCE

- PRO-ACT SS Talk Edition 31 Dec 96, authorizes **BREAKTHROUGH®** as MIL PRF-680, Type II.

U.S. ARMY

- “Based upon favorable toxicity, regulatory and use data; a toxicity clearance is granted for **BREAKTHROUGH®** for use as a degreasing solvent.” U.S. Army Center for Health Promotion and Preventative Medicine, 28 Jan 97.
- APC Tech Message #92 authorizes **BREAKTHROUGH®** as an Environmentally Compliant Replacement for PD-680 Type I and Type II for cleaning U.S. Army Weapons, Ground Vehicles, Equipment, and Aviation materials.

Physical/Chemical Characteristics:

Vapor Pressure (@20°C): 0.1 mmHg / Flash Point: 150°F PMCC

National Stock Number for 5 Gallon Can: 4250-01-595-9601



INLAND TECHNOLOGY INCORPORATED
TECHNICAL DATA SHEET



SKYSOL®

SKYSOL® was specifically designed for the aircraft industry as a hydraulic fluid remover and general solvent cleaner. **SKYSOL®** is a state of the art solvent designed to help users break out of the tangle of regulations regarding emissions, disposal, and industrial health hazards.

SKYSOL® has a low vapor pressure to control VOC emissions. It is non-carcinogenic and contains no ingredients listed by SARA, Title III, Sections 302 and 313, CERCLA, and RCRA. Worker exposure is not regulated by the OSHA Z list.

SKYSOL® enjoys the following specifications:

FORD MOTOR COMPANY

- **Supplier Code R77UA**
- **TOX #1349181**

U.S. ARMY

- **TB 43-0135**—Recommended substitute for ozone depleting substances used on communications-electronics equipment
- **APC Tech Message #92**—Authorizes **SKYSOL®** as an environmentally compliant replacement for PD-680, Type I and Type II for cleaning U.S. Army weapons, ground vehicles, equipment, and aviation materials
- **TACOM**—Meets military specification for MIL PRF-680, Type IV

Physical/Chemical Characteristics:

Initial Boiling Point:	340°F	Appearance & Odor:	Clear with mild citrus odor
Vapor Pressure (mmHg @ 25°C):	<2	Specific Gravity (H ₂ O = 1):	.77
Vapor Density (air = 1):	>4	Volatile by Volume:	100%
Evaporation Rate (n-Butyl Acetate = 1):	<.1	Flash Point:	152°F (PMCC)
		Solubility:	Not Water Soluble

National Stock Numbers:

6850-01-381-4420—5 gallon can

6850-01-381-2719—55 gallon drum



INLAND TECHNOLOGY INCORPORATED
TECHNICAL DATA SHEET



ISO-PREP™

ISO-PREP™ is the ultimate in safety in a petroleum solvent. ISO-PREP™ contains no hazardous chlorinated, fluorinated, or aromatic hydrocarbons. Its components have been selected from only the safest petroleum distillates.

ISO-PREP™ removes oil, grease, glues, inks, wax, asphalt, and other deposits. Its controlled evaporation makes it ideal for parts washing and cold tank cleaning. Its safety and near lack of odor make it an ideal cleaner for industry.

ISO-PREP™ is a virtually odorless, high-purity hydrocarbon that provides good wetting and a very low degree of irritancy to the skin and eyes.

ISO-PREP™ has a low vapor pressure (<10mmHg) to control VOC emissions and a very low toxicity rating. ISO-PREP™ is exempt from SARA, Title III, Section 313, is non-carcinogenic, and worker exposure is not limited by OSHA.

ISO-PREP™ enjoys the following specification:

BOEING AIRCRAFT COMPANY

- BAC 5750 – General Solvent Cleaning on Boeing Aircraft.

U.S. ARMY

- TB 43-0135 – Recommended substitute for ozone depleting substances used on communications-electronics equipment.

Physical/Chemical Characteristics:

Flash Point: 104°F (TCC)
 Vapor Pressure (mmHg @ 25°C): <10
 Volatility: 100%
 Boiling Point: 303°F—345°F

MATERIAL SAFETY DATA SHEET

This form complies with OSHA Hazardous Communication Standard, 29 CFR 1910.1200.

SECTION I

PARTSMASTER™ TYPE I

Inland Technology Incorporated • 401 East 27th Street • Tacoma, WA 98421

Product Information: 1-800-552-3100

Transportation Emergencies: 1-800-255-3924

Date: July 30, 2010

MSDS No. 04014

Product Number: FP681

Synonyms: N/A

SECTION II - INGREDIENTS AND HAZARD IDENTIFICATION

Substances NOT considered hazardous by OSHA may also be listed.

COMPONENTS	CAS #	PEL	TLV	OTHER
C12 - C13 Paraffinic Hydrocarbons	64742-48-9	Not Listed	Not Listed	

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Initial Boiling Point: 330°F

Specific Gravity (H₂O=1): .76

Vapor Pressure (@ 25°C mmHg): <5

Vapor Density (air=1): >4.5

Evaporation Rate (n-Butyl Acetate=1): <.4

Solubility: Not water soluble

Volatile by Volume: 100%

Appearance and Odor: Clear with mild petroleum odor

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash point by: 125°F PMCC

Flammable Limits LEL: 0.8% UEL: 7%

Extinguishing Media: Foam, water spray, dry chemical, carbon dioxide.

Special Fire Fighting Procedures: Use air supplied breathing equipment for enclosed and confined spaces or as otherwise needed.

Unusual Fire and Explosion Hazards: None known.

SECTION V - REACTIVITY DATA