



TURI SURFACE CLEANING LABORATORY

CLEANING CHEMICAL QUESTIONNAIRE

See letter for submission instructions.

Material Safety Data Sheet (MSDS) MUST Be Attached (and Technical Data Sheet, if available)



1. Product/Trade Name (Please use a separate questionnaire for each cleaning chemical you want listed in the Directory) Coil Bright Generic Chemical Family: Acid-water Based

Meets Specified Standard(s): ASTM: _____ Mil Spec: _____ FDA: _____ Other: _____

- Primary Cleaner Classification (Check only one):
[X] Acidic Aqueous [] Semi-Aqueous [] Powder detergent [] Extracting
[] Neutral Aqueous [] Terpene [] Enzymatic/ [] HCFC
[] Alkaline Aqueous [] Petroleum distillate [] Microbial [] Alcohol
[] Caustic [] Organic [] Blasting [] Other:

2. Chemical Constituents (Check all that apply & specify) Example [X] Builder: Sodium Hydroxide 50% (as Concentrate)

- Cleaner Containing: At Least Some Water (50%) OR No/Minimal Water
[X] Builder: _____ [X] Water conditioner/Sequestering/ Chelating agent: _____ [] Supercritical fluid: _____
[] Surfactant: _____ [] Corrosion inhibitor/Rust prohibitor: _____ [] Blasting medium: _____
[] Emulsifier: _____ [] Anti-microbial: _____ [] Other: _____
[] Saponifier: _____ [] Rinse aid/Silicate: _____

3. Industrial Applications (Number all that apply, Most Used = 1)

- [] Aerospace/Military [] Metal Finishing [] PCBs [] Semiconductors
[] Cleanrooms [] Metal Fabrication [] Plastics [] General Cleaning (floors, etc.)
[] Basic Electronics [] Optics [] Precision Instruments [] Maint./Repair (engines, etc.)
[] Medical [] Painting [] Printing [X] Other: Coil Cleaning

4. Contaminant Removal (Check all that apply & specify, if possible) Example [X] Coatings Conformal

- [] Adhesives [] Coatings [] Greases [] Mold releases/ [X] Rust/Scale
[] Buffing/polishing compounds [] Cutting/tapping fluids [] Inks [] Silicones [] Waxes
[] Carbon deposits [] Fluxes [] Lubricating/lapping oils [] Paints [] Other: _____
[] Resins/Rosins

5. Substrate Compatibility (Check all that apply)

- [X] Aluminum [X] Carbon steel [] Glass/quartz [] Rubber [] Nickel
[] Alloys (Specify): _____ [] Ceramics [] Gold [X] Stainless steel [] Tin
[] Brass [] Copper [] Plastic (Specify): _____ [] Steel [] Other: _____
[] Galvanized steel [] Sterling/silver

6. Equipment Compatibility (Check all that apply & specify, if applicable)

- [] Cold Solvent [] Mechanical Agitation [X] Low Pressure Spray 15 psi-range
[] Vapor Degreasing [] Ultrasonics [] High Pressure Spray _____ psi-range
[] Manual Wipe [] Media Blasting [X] Other: Bug Sprayer - Foamer
[X] Immersion/Soak [] Supercritical Extract

7. Recommended Concentrations: 10-20 Percent Volume (range)
Recommended Temperatures: Ambient - Tap hot Deg. F (range)

8. Important Physical and Chemical Properties:
Maximum theoretical VOC content: _____
GWP: None Surface Tension: _____ Density: 1.7
ODP: None Kb value: NA Other: _____

9. Cost per pound/gallon: Smallest-unit price: competitive Large-volume price: vol. discounts US\$

10. Additional pertinent information not found elsewhere on this form or MSDS: available

Watson Technical Associates, Inc.

Coil Bright

Composition

Watson Coil Bright is a unique blend of chemistry for cleaning all types of air handling equipment. It is a mild acid material, containing inhibitors for the protection of base metals, and is recommended for cleaning Aluminum fins and parts.

As Watson Coil Bright penetrates and removes the dull oxide film from Aluminum surfaces, it suspends the solids with its advanced surfactant technology leaving a bright, clean surface while improving heat transfer and reducing energy consumption. With regular preventative maintenance, air handling units, heat exchanges, filters and electrostatic filters are able to operate at peak efficiency.

Applications

Watson Coil Bright may be used concentrated for heavily soiled, oxidized units, or may be diluted with water, depending on the condition of the equipment to be cleaned. A concentration of 20% is typically used. A strong spray or narrow stream of Coil Bright is applied so as to penetrate all areas, particularly between the fins. The spray nozzle should be held close to the surface being cleaned to avoid excessive mist and inhalation by operator. If required, application of Watson Coil Bright may be repeated. Allow the product to remain on the surface for five minutes. Rinsing with water is recommended to remove all suspended matter and chemical treatment. All areas in close proximity to the unit being cleaned with Coil Bright should be protected against possible damage.

Normal precautions associated with handling mild acid materials should be used. Please refer to the Material Safety Data Sheet for more information.

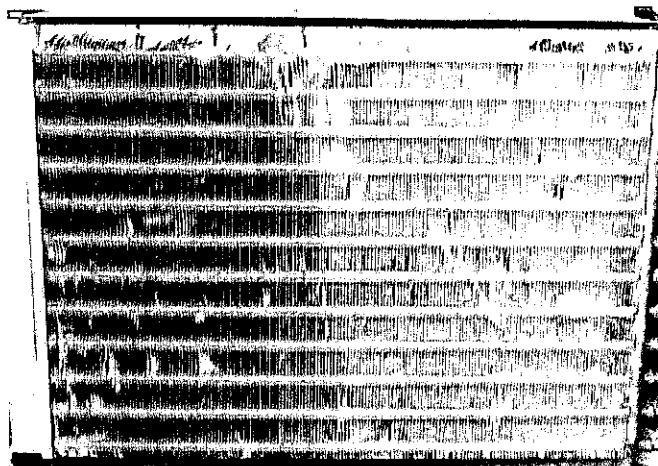
Typical Physical Properties

Appearance	A clear purple liquid
Odor	None
Specific Gravity	1.7
Weight / Gallon	8.93 lbs.
Solubility in Water	Infinite
pH	1
Hard Water Stability	Excellent
Freeze / Thaw Stability	Excellent
Biodegradable	Yes

Features & Benefits

- Removes Scale, Rust & Grime from Air Conditioners & Heat Exchange Coils
- Does not Contain HCl
- Safe on Aluminum
- Biodegradable

Actual Cleaning Results



Before and After Coil Bright

This coil was exposed to the elements for approximately 5 years without cleaning.

M A T E R I A L S A F E T Y D A T A S H E E T

A Product of: Date: 1-1-98
Watson Technical Associates Ref. No.: 1204
P.O. Box 117 Telephone: 978-957-2919
Tewksbury, MA 01876 Preparer: David P. Miller

SECTION I - PRODUCT IDENTIFICATION

Trade Name: COIL BRITE
Chemical name / synonyms: Phosphoric Acid Solution
Formula: Mixture
D.O.T.: Compounds, Cleaning Liquid (Contains Phosphoric Acid) 8, NA 1760, PG III
HMIS CODE: Health 2, Fire 0, Reactivity 0
HMIS KEY: 4=Extreme, 3=High, 2=Moderate, 1=Slight,
0=insignificant

SECTION II - HAZARDOUS INGREDIENTS

Substance	% Composition	TLV
Phosphoric Acid CAS# 7664-38-2	15 - 25	1 mg/m ³
Dipropylene Glycol Methyl Ether CAS# 34590-94-8	1 - 2	100 ppm

SECTION III - PHYSICAL DATA

Boiling Pt (°F): 212 Specific Gravity: 1.07 (+-.03)
Vapor Pressure(mm Hg): NA Percent Volatile: <2
Vapor Density (air=1): NA Evaporation Rate (water=1): 1
Solubility in water: complete pH: 1
Appearance and Odor: clear liquid, characteristic odor.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Pt (°F): Not determined
Flammable limits in air: Upper: NA Lower: NA
Extinguishing Media: As necessary for surrounding fire
Special fire fighting procedures: NA
Unusual fire and explosion hazard: NA

SECTION V - HEALTH HAZARD DATA - ROUTES OF ENTRY

Threshold Limit Value: See Section II
Acute Effects of Overexposure: EYES- irritation, redness, tearing. SKIN- irritation, dermatitis. INHALATION- nausea, dizziness, headache. INGESTION- nausea, dizziness, harmful if swallowed.
Chronic Effects of Exposure: Not known.
Emergency and First Aid Procedures: EYES- flush with plenty of cool water for at least 15 minutes. If irritation persists, obtain medical attention. SKIN- remove contaminated clothing and launder before reuse. Wash skin with soap and water.
INHALATION- remove person to fresh air. Administer artificial respiration if

indicated. Obtain immediate medical assistance. INGESTION- rinse mouth with water, then drink copious amounts of water to cause dilution in stomach. Do not induce vomiting. Call physician or poison center immediately.

SECTION VI - REACTIVITY DATA

Stability: stable
Hazardous decomposition products: carbon monoxide and unidentified organic compounds may be formed during combustion.
Hazardous polymerization products: Will not occur.
Conditions to avoid: Mixing with strong alkalis, bleach, or ammonia.

SECTION VII - SPILL OR LEAK PROCEDURE

Steps to be taken if material is released or spilled:
Large spills- dike and contain. Place in non leaking containers for disposal agency.
Small spills- soak or mop up. Small spills may be flushed to sewer.
Waste disposal method: Observe applicable local disposal regulations which may include containment, impoundment, evaporation, or slow addition to sewer.

SECTION VIII - SPECIAL PROTECTION INFORMATION

Respiratory Protection: NIOSH approved respirator for acid solutions if product is to be sprayed.
Ventilation -local exhaust: recommended
-mechanical exhaust: recommended
Protective gloves: rubber Eye protection: chemical goggles if contact is likely.
Other protective equipment: none

SECTION IX - SPECIAL PRECAUTIONS

Precautions to be taken in handling and storage: Store above 35°F. Keep container tightly closed when not in use.
Other precautions: KEEP OUT OF REACH OF CHILDREN.
NA refers to NOT APPLICABLE on this form.

The information on this Material Safety Data Sheet reflects the latest information and data that we have on hazards, properties, and handling of this product under the recommended conditions of use. Any use of this product or method of application which is not described in the Product Data Sheet is the responsibility of the user.

This Material Safety Data Sheet was prepared to comply with the OSHA Hazard Communication Regulations and Massachusetts Right to Know Law.