

SECTION 1 - PRODUCT IDENTIFICATION

Product identifier/Trade name: AFC
Product code/Internal Identification: 1004; 1020; 1204
Product use/Description: Coil cleaner. 4 L, 20 L and 205 L container.
Product chemical name: Mixture
Chemical family: N/Ap
MSDS preparation/review date: December 23, 2012
Supplier identifier: Asalco Inc.
44, ch. Des Ursulines, Stanstead, Québec (Canada), J0B 3E0
Telephone 819-876-2211; Fax 819-876-5373; Internet www.asalco.com
Manufacturer identifier: Same as supplier
Emergency phone number: (613) 996-6666 (CANUTEC)
WHMIS Classification: D1A – Toxic material with immediate and serious effects
D2A – Toxic material with other effects
E – Corrosive material

SECTION 2 - CHEMICAL COMPOSITION / HAZARDOUS INGREDIENTS

Hazardous Ingredients	CAS #	% (weight)	LD ₅₀ (route, species)	LC ₅₀ (species)
Phosphoric acid	7664-38-2	5-10	1.25 g/kg (Oral, rat)	> 213 mg/m ³ 4 Hr (rat)
Hydrofluoric acid	7664-39-3	5-10	< 40 mg/kg (Oral, mouse)	1276 ppm 1 Hr (rat)
2-Butoxyethanol	111-76-2	1-5	250 mg/kg (Oral, rat) 220 mg/kg (Dermal, rabbit)	450 ppm 4 Hrs (rat)

SECTION 3 - HAZARDS IDENTIFICATION**Emergency Overview**

DANGER! Corrosive and very toxic liquid. Causes eye and skin irritation or burn. May be fatal if too much absorbed through skin, inhaled or swallowed. Long-term exposure may cause skeletal fluorosis (weakened bone structure). Chronic effects may include severe lung, liver and kidney damage and deaths when exposed to low concentrations.

POTENTIAL HEALTH EFFECTS

Primary entry route(s): Skin contact, skin absorption, eye contact, ingestion and inhalation.

Effects of short-term (acute) exposure:**Inhalation:**

May cause moderate to severe irritation or burn of the respiratory tract. High vapour concentrations may cause headache, nausea, dizziness, vomiting, drowsiness, incoordination and confusion. May be fatal if too much vapours or mists are inhaled.

Skin:

May cause moderate to severe skin irritation or burn. May be fatal if too much product is absorbed through skin.

Eye:

Causes severe irritation or burn (mild scarring to blistering, disintegration, ulceration, severe permanent scarring, clouding and blindness).

Ingestion:

Should ingestion occur, severe pain, burning of the mouth, throat and esophagus. May result in vomiting and diarrhea. May be fatal if too much product is ingested.

Effects of long-term (chronic) exposure:

Long-term exposure may cause skeletal fluorosis (weakened bone structure). Chronic effects may include severe lung, liver and kidney damage and deaths when exposed to low concentrations.

Other important hazards:

Refer to Section 11, Toxicological Information, for further information.

SECTION 4 - FIRST AID MEASURES**Inhalation:**

Remove source of contamination or have victim move to fresh air. If not breathing, give artificial respiration. Obtain medical attention immediately.

Skin contact:

Flush contaminated area with lukewarm, gently flowing water. Under running water, remove contaminated clothing. Limit flushing with water to 5 minutes if 0.13% benzalkonium chloride solution or 2.5% calcium gluconate gel is available. If these treatments are not available, continue flushing until medical treatment is available. If using benzalkonium chloride, soak the affected area(s) in 0.13% benzalkonium chloride solution chilled with ice cubes. If immersion of the affected area is not practical, soak towels with iced 0.13% benzalkonium chloride solution and use as compresses on the site of contact. Change compresses every 2-3 minutes. Continue until medical treatment is available. If using 2.5% calcium gluconate gel, massage gel into the site of contact. Apply gel every 15 minutes and massage continuously until medical treatment is available. Immediately transport victim to an emergency care facility. Discard all contaminated clothing.

Eye contact:

Immediately flush the contaminated eye(s) with gently flowing lukewarm water for 20 minutes while holding the eyelid(s) open. Neutral saline solution may be used as soon as it is available. Take care not to rinse contaminated water into the unaffected eye. If sterile 1% calcium gluconate is available, limit flushing to 5 minutes, then repeatedly flush the eye(s) with 1% calcium gluconate solution. Immediately transport victim to an emergency care facility. Continue flushing with water, neutral saline or 1% calcium gluconate during transport, if at all possible. Ice-water compresses may be applied to the eye(s) during transport.

Ingestion:

NEVER give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. Rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. Have victim drink two glasses of water. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Repeat administration of water. Obtain medical attention immediately.

SECTION 5 - FIRE FIGHTING MEASURES**Fire hazards/conditions of flammability:**

Material will ignite when exposed to temperatures above the flash point. Closed containers are contained under pressure and may explode if exposed to excess heat. Vapours are heavier than air and collect in confined and low-lying areas.

Flash point (Method): > 93.3 °C

Lower flammable limit (% by volume): N/Av

Upper flammable limit (% by volume): N/Av

Sensitivity to mechanical impact: Not sensitive.

Sensitivity to static discharge: Not sensitive.

Auto-ignition temperature: N/Av

Suitable extinguishing media: Carbon dioxide, dry chemical powder and appropriate foam.

Special fire-fighting procedures/equipment:

During a fire, irritating/toxic smoke and fumes may be generated. Do not enter fire area without proper protection. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full facepiece. Shield personnel to protect from venting, rupturing or bursting cans. Move containers from fire area if it can be done without risk. Water spray may be useful in cooling equipment and cans exposed to heat and flame.

Hazardous combustion products: Carbon oxides, Hydrogen fluoride and other irritating fumes and smoke.

SECTION 6 - ACCIDENTAL RELEASE MEASURES**Personal precautions:**

Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only. Remove all ignition sources. Remove or isolate flammable and combustible materials. All persons dealing with clean-up should wear the appropriate protective equipment (See Section 8).

Spill response/Cleanup:

Ventilate area of release. Eliminate all sources of ignition. Stop the leak if it can be done safely. Contain and absorb any spilled liquid concentrate with inert absorbent material, then place material into a container for later disposal (see Section 13). Contaminated absorbent material may pose the same hazards as the spilled product. Notify the appropriate authorities as required.

Environmental precautions:

Confine spill, preventing it from entering sewer lines or waterways. Dispose of as per local, state and federal regulations.

SECTION 7 - HANDLING AND STORAGE

Safe handling procedures:

Before handling, it is very important that engineering controls are operating, and that protective equipment requirements and personal hygiene measures are being followed. People working with this chemical should be properly trained regarding its hazards and its safe use. Do not use near welding operations, flames or hot surfaces. Handling equipment should be properly grounded. Inspect containers for leaks before handling. Label containers appropriately. Ensure proper ventilation. Avoid breathing vapours or mists. Avoid contact with eyes, skin and clothing. Keep away from heat, sparks and flame. Avoid generating high concentrations of vapours or mists. Keep away from incompatible materials such as strong oxidizing materials. Keep containers closed when not in use. Empty containers are always dangerous. Assume that empty containers contain residues which are hazardous.

Storage requirements:

Store in a cool, well-ventilated area, away from heat and ignition sources. Store away from incompatible materials. Inspect all incoming containers to make sure they are properly labelled and not damaged. Storage area should be clearly identified, clear of obstruction and accessible only to trained personnel. Inspect periodically for damage or leaks.

Incompatible materials:

STRONG OXIDIZING MATERIALS (e.g. Chlorides, Peroxides), strong bases (e.g. Sodium hydroxide), some metals.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure limits: There is no available data for the product. See below for individual ingredient exposure limits.

Ingredient	OSHA PEL		ACGIH TLV	
	TWA	STEL	TWA	STEL
Phosphoric acid	1 mg/m ³	N/Av	1 mg/m ³	3 mg/m ³
Hydrofluoric acid	3 ppm	N/Av	0.5 ppm	N/Av
2-Butoxyethanol	25 ppm	N/Av	20 ppm	N/Av

Engineering controls:

Use under well-ventilated conditions. Local exhaust ventilation system is recommended to maintain concentrations of contaminants below exposure limits.

Respiratory Protection:

Respiratory protection is required if the concentrations are higher than the exposure limits. Use a NIOSH approved respirators if the exposure limits are unknown.

Protective Clothing/Equipment:

Chemically protective gloves (impervious), and other protective clothing to prevent prolonged or repeated skin contact, must be worn during all handling operations. Wear protective chemical splash goggles to prevent mists from entering the eyes. Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

General Hygiene Considerations:

Avoid generating high concentrations of vapours or mists. Avoid contact with skin and eyes. Avoid breathing vapours or mists. Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material. Remove and wash contaminated work clothing before re-use.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state, colour and odour: Light blue liquid. Acidic odour.

Odour threshold: N/Av

pH: 1-3

Melting/freezing point: 0 °C

Coefficient of oil/water distribution: N/Av

Specific gravity or density (water = 1): 1.0

Evaporation rate (n-Butyl acetate = 1): N/Av

Boiling point: 80 °C

Vapour pressure (@ 20°C): N/Av

Solubility in water: N/Av

Vapour density (Air = 1): > 1 heavier than air

% volatile by volume: N/Av

SECTION 10 - REACTIVITY AND STABILITY DATA

Stability and reactivity: Stable under the recommended storage and handling conditions prescribed.

Polymerization: Hazardous polymerization will not occur.

Conditions to avoid: Avoid heat, sparks, direct flame and other ignition sources.

Materials to avoid: Incompatible materials (see Section 7).

Hazardous decomposition products: None known. Refer to 'Hazardous combustion products', Section 5.

N/Av: not applicable

N/Av: not available

SECTION 11 - TOXICOLOGICAL INFORMATION**Toxicological data:**

There is no available data for the product itself, only for the ingredients. **For more details, refer to Section 2.**

Carcinogenicity: No ingredient listed by IARC, ACGIH, NTP or OSHA as a carcinogen.

Teratogenicity, mutagenicity, other reproductive effects: N/Av

Skin sensitization: N/Av

Respiratory tract sensitization: N/Av

Conditions aggravated by exposure: None known

Synergistic materials: N/Av

SECTION 12 - ECOLOGICAL INFORMATION

Environmental effects: There is no available data on the product itself. The product should not be allowed to enter drains or water courses or be deposited where it can affect ground or surface waters.

Important environmental characteristics: N/Av

Aquatic toxicity: N/Av

SECTION 13 - WASTE DISPOSAL**Handling and storage conditions for disposal:**

Store material for disposal as indicated in Handling and Storage (Section 7). Do not puncture or incinerate empty spray cans.

Methods of disposal:

Review federal, provincial and local government requirements prior to disposal.

SECTION 14 - TRANSPORTATION INFORMATION**Transportation of Dangerous Goods (TDG) :**

TDG Classification: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Hydrofluoric acid, Phosphoric acid); Class 8; UN3264; II

Special case: Product can also be shipped as a LIMITED QUANTITY/CONSUMER COMMODITY according to TDG Section 1.17.

SECTION 15 - REGULATORY INFORMATION**WHMIS information:**

Product is regulated according to the Controlled Product Regulations (CPR) in Canada. Refer to Section 1 for the appropriate WHMIS classification.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and this MSDS contains all the information required by the CPR.

Hazardous Materials Identification System (HMIS):

HEALTH: 3 FLAMMABILITY: 1 REACTIVITY: 0 PERSONAL PROTECTION: See Section 8.

HAZARD SCALE: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

National Fire Protection Association (NFPA):

HEALTH: 3 FLAMMABILITY: 1 INSTABILITY: 0 SPECIAL HAZARDS: None.

HAZARD SCALE: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

United States OSHA information:

This product is regulated according to OSHA. This MSDS contains all the information required by OSHA.

United States TSCA information: The ingredients in this product are listed on the TSCA.

New Jersey Labeling Requirements: Ingredients to be disclosed on product labelling : Refer to Section 2.

California Proposition 65: This product may contain traces of chemicals that are known to the State of California to cause cancer or other reproductive harm.

SECTION 16 - OTHER INFORMATION

Prepared by: NSS ENTREPRISE INC. for Asalco Inc.
Telephone number: Telephone 819-876-2211 Fax 819-876-5373 Internet www.asalco.com

References:

1. Material Safety Data Sheets from manufacturer/supplier.
2. CSST, Répertoire Toxicologique, Les produits, 2012.
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2012.

Abbreviations:

ACGIH	American Conference of Governmental Industrial Hygienists
AIHA	American Industrial Hygiene Association
CAS	Chemical Abstract Service
DSL	Domestic Substance List
IARC	International Agency for Research on Cancer
LC	Lethal concentration
LD	Lethal Dosage
N/Ap	Not applicable
N/Av	Not available
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program (U.S.A.)
OSHA	Occupational Safety and Health Administration (U.S.A.)
PEL	Permissible Exposure Limit
STEL	Short-term Exposure Limit
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
TWA	Time Weighted Average
WEEL	Workplace Environmental Exposure Level
WHMIS	Workplace Hazardous Materials Information System

End of the MSDS