SAFETY DATA SHEET

Conforms to regulation (EC) no. EU 453/2010

SECTION 1 - IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier

Product Name: Filtron-X **Product Number:** LS-201

1.2 Relevant Identified Uses of the Substance/Mixture and Uses Advised Against

Investigational research by professional users

1.3 Details of the Supplier of the Safety Data Sheet

Manufacturer
National Diagnostics
305 Patton Drive
Atlanta, GA 30036
(404) 699-2121
(800) 526-3867
info@nationaldiagnostics.com

1.4 Emergency Telephone Number

ChemTel Inc.
Contract number MIS8894340
1-800 255-3924 (United States, Canada, Puerto Rico & US Virgin Islands)
01-800-099-0731 (Mexico)
400-120-0751 (China)
000-800-100-4086 (India)
1-300-954-583 (Australia)
0-800-591-6042 (Brazil)
+1-813-255-3924 (All other regions)

SECTION 2 - HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture

Classification according to Regulation (EC) No. 1272/2008 [EU-GHS/CLP]

H226 - Flammable Liquids (Category 3)
H302 - Acute Toxicity-Oral (Category 4)
H304 - Aspiration Hazard (Category 1)
H315 - Skin Corrosion/Irritation (Category 2)
H336 - May cause drowsiness or dizziness
H360 - Toxic to Reproduction (Category 1B)
H411 - Chronic Hazards to the Aquatic Environment (Category 2)

2.2 Label Elements

GHS LABEL ELEMENTS AND CLASSIFICATION

GHS Label Elements

DANGER

H226 - Flammable liquid and vapor.
H302 - Harmful if swallowed
H304 - May be fatal if swallowed and enters airways.
H315 - Causes skin irritation.
H336 - May cause drowsiness or dizziness.
H360 - May damage fertility or the unborn child.
H411 - Toxic to aquatic life with long lasting effects.
P233 - Keep container tightly closed.
P260 - Do not breathe dust/fumes/gas/mist/vapors/spray.
P273 - Avoid release to the environment.
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician .
P331 - Do NOT induce vomiting.
P308+P313 - IF exposed or concerned: Call a POISON CENTER or

doctor/physician.

2.3 Other Hazards
None found.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS
3.2 Mixture
Chemical Names/Description
Aromatic hydrocarbons and nonionic surfactants with scintillation phosphors

Component List

Component	% Comp.	CAS #	EC #	1278/2008 Classification
Solvent Naphtha, Light Aromatic	50 - 60	64742-95-6	265-199-0	H226, H304, H315, H336, H411
Methanol	1 - 3	67-56-1	200-659-6	H225, H301, H311, H331, H371
N- Methylpyrrolidone	15 - 20	872-50-4	212-828-1	H315, H319, H335, H360
Linear alkyl phenyl ethoxylates	15 - 20	26027-38-3	500-045-0	H302, H315, H319, H411

SECTION 4 - FIRST AID MEASURES
4.1 Description of First Aid Measures
Inhalation
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Ingestion
Do not induce vomiting. If swallowed and the person is conscious, immediately give large amounts of water. Get medical attention.

Skin
Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eyes
Immediately flush eyes with plenty of water for at least fifteen minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed
Inhalation
Solvent Naphtha, Light Aromatic:
Symptoms may include sore throat, coughing, labored breathing, sneezing and burning sensation, depending on the concentration and duration of exposure. If CNS depression or effects occur, symptoms include headache, excitation, euphoria, dizziness, incoordination, drowsiness, light-headedness, blurred vision, fatigue, tremors, convulsions, loss of consciousness, coma, respiratory arrest and death, depending on the concentration and duration of exposure.

Methanol:
Irritation of the respiratory tract and mucous membranes. For central nervous system symptoms which may occur due to exposure by inhalation, see Ingestion.

N- Methylpyrrolidone:
May cause respiratory tract irritation

Linear alkyl phenyl ethoxylates:
Discomfort in nose and throat, nasal discharge, coughing, difficulty breathing.

Ingestion
Solvent Naphtha, Light Aromatic:
Ingestion symptoms may include salivation, pain, nausea, vomiting, and diarrhea. Exposure may also cause central nervous system symptoms similar to those listed under Inhalation

Methanol:
Effects may include excitation, euphoria, headache, dizziness, drowsiness, blurred vision, fatigue, tremors, convulsions, loss of consciousness, coma, respiratory arrest and death.

N- Methylpyrrolidone:
Gastrointestinal tract irritation, nausea, vomiting and diarrhea.

Linear alkyl phenyl ethoxylates:
Abdominal discomfort, nausea, and diarrhea.

Skin

Solvent Naphtha, Light Aromatic:
Reddening, itching, and inflammation.

Methanol:
Exposure may cause symptoms similar to those listed under Ingestion.

N- Methylpyrrolidone:
Harmful if absorbed through skin. Repeated and prolonged skin contact may lead to skin irritation. May cause skin redness and blistering.

Linear alkyl phenyl ethoxylates:
Local redness and swelling.

Eyes

Solvent Naphtha, Light Aromatic:
Irritation, redness, tearing, and blurred vision.

Methanol:
Irritation, redness, pain, and inflammation.

N- Methylpyrrolidone:
Moderate eye irritation

Linear alkyl phenyl ethoxylates:
Excess blinking and tear production. Marked redness and swelling of the eye with injury to the cornea.

4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed

Unknown/not applicable

SECTION 5 - FIRE FIGHTING MEASURES

5.1 Extinguishing media

Dry powder, foam, carbon dioxide. (Water may be ineffective.)

5.2 Special Hazards Arising from the Substance/Mixture

Hazardous Combustion Products

Thermal decomposition products may include toxic oxides of nitrogen, sulfur, and carbon.

Hazardous Decomposition Products

Combustion products include hazardous oxides or carbon, nitrogen, and sulfur.

Hazardous Polymerization

Will not occur under normal conditions of use (See Sections 10.4 & 10.5).

5.3 Advice for Firefighters

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

5.4 Further Information

No data available.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions

Wear appropriate protective equipment as specified in Section 8.

6.2 Environmental Precautions
Prevent discharge into the environment. Dike spills and stop leakage where practical. Do not allow material to enter drains.

6.3 Methods and Materials for Containment and Cleaning Up
Isolate hazard area and deny entry. Keep ignition sources out of area and shut off all ignition sources. Absorb spill with inert material (e.g. dry sand or earth) then place in a chemical waste container.

6.4 References to Other Sections
For disposal information see Section 13. For protective clothing and equipment see Section 8.

SECTION 7 - HANDLING AND STORAGE
7.1 Precautions for Safe Handling
Avoid contact and inhalation. Do not get in eyes, on skin, on clothing. Wash thoroughly after handling. Transfer methods should avoid static sparks. Use explosion proof ventilation.

7.2 Conditions for Safe Storage (including any incompatibles)
Keep in a tightly closed container, stored in a cooled, dry, ventilated area away from sources of heat or ignition. Protect from physical damage. Isolate from incompatible materials (section 10).

Incompatibles

Solvent Naphtha, Light Aromatic:
Oxidizing agents.

Methanol:
Acetyl bromide, calcium carbide, chlorine, chromic anhydride, cyanuric chloride, dichloromethane, diethyl zinc, lead perchlorate, magnesium, metals, strong oxidizers, perchloric acid, phosphorous trioxide, potassium, sodium hypochlorite, sulfuric acid and zinc.

N- Methylpyrrolidone:
Strong oxidizing agents, reducing agents.

Linear alkyl phenyl ethoxylates:
Oxidizing agents.

7.3 Specific End Uses
Investigational research by professional users

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PRECAUTIONS
8.1 Control Parameters
Component: Solvent Naphtha, Light Aromatic

ACGIH Threshold Limit Value (TLV):
50 ppm

OSHA Permissable Exposure Limit (PEL):
None established

Component: Methanol

ACGIH Threshold Limit Value (TLV):
200 ppm

OSHA Permissable Exposure Limit (PEL):
None established

Component: N- Methylpyrrolidone

ACGIH Threshold Limit Value (TLV):
N.A.

OSHA Permissable Exposure Limit (PEL):
None established

Component: Linear alkyl phenyl ethoxylates

ACGIH Threshold Limit Value (TLV):
N.A.

OSHA Permissable Exposure Limit (PEL):
None established

8.2 Exposure Controls

Engineering Controls

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source.

Respiratory Protection

If the exposure limit is exceeded, wear a supplied air, full-facepiece respirator, airlined hood, or full-facepiece self-contained breathing apparatus.

Eye Protection

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

Skin Protection

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on Basic Physical & Chemical Properties

a. Appearance	Clear, colorless liquid	**b. Odor**	Slight aromatic
c. Odor Threshold	N.A.	**d. pH**	Neutral
e. Melting/Freezing Point (^{o}C)	0	**f. Boiling point (^{o}C)**	182.2
g. Flash Point (^{o}C)	51	**h. Evaporation Rate**	< 0.1 Bu-Acetate = 1
i. Flammability	Combustible	**j. Upper/Lower Flammability or Explosive Limits**	ND
k. Vapor Pressure	2.0 mm Hg @ 25 C	**l. Vapor Density (Air = 1)**	4.8
m. Relative Density	0.92	**n. Water Solubility**	Gels w/ small quant.
o. Partition Coefficient n-octanol/water	Mixture	**p. Autoignition Temperature (^{o}C)**	463
q. Decomposition Temperature (^{o}C)	Not applicable.	**r. Viscosity**	2.5 cSt @ 40 C
s. Explosive Properties	Combustible liquid and vapors	**t. Oxidizing Properties**	Not an oxidizer

SECTION 10 - STABILITY AND REACTIVITY

10.1 Reactivity

Contains alkali amines-may react with strong acids or oxidizers. May corrode metals.

10.2 Chemical Stability

Stable under normal conditions of use.

10.3 Possibility of Hazardous Reactions

Will not occur under normal conditions of use (See Sections 10.4 & 10.5).

10.4 Conditions to Avoid

Heat, sources or ignition, and incompatibles.

10.5 Incompatible Materials

Solvent Naphtha, Light Aromatic:

Oxidizing agents.

Methanol:

Acetyl bromide, calcium carbide, chlorine, chromic anhydride, cyanuric chloride, dichloromethane, diethyl zinc, lead perchlorate, magnesium, metals, strong oxidizers, perchloric acid, phosphorous trioxide, potassium, sodium hypochlorite, sulfuric acid and zinc.

N- Methylpyrrolidone:

Strong oxidizing agents, reducing agents.

Linear alkyl phenyl ethoxylates:

Oxidizing agents.

10.6 Hazardous Decomposition Products

Combustion products include hazardous oxides or carbon, nitrogen, and sulfur.

SECTION 11 - TOXICOLOGICAL INFORMATION

Product LD50 Values

Oral Rat LD50 (mg/kg)

No Data

Dermal Rabbit LD50 (mg/kg)

No Data

Component Cancer List Status

	NTP Carcinogen		
	Known	Anticipated	IARC Category
Solvent Naphtha, Light Aromatic	No	No	3
Methanol	No	No	None
N- Methylpyrrolidone	No	No	none
Linear alkyl phenyl ethoxylates	No	No	none

Potential Health Effects

Inhalation

Solvent Naphtha, Light Aromatic

SLIGHTLY TOXIC. Breathing of the mists, vapors or fumes may irritate the nose, throat, and lungs. May cause central nervous system depression or effects. May cause cardiac sensitization, including arrhythmias (irregular heart beats) and death due to cardiac arrest. Chronic exposure to high doses may damage the peripheral nerves, resulting in numbness or tingling in the extremities. See also Reproductive Toxicity and Target Organ Statement for further special toxic effects.

Methanol

May irritate the respiratory tract and mucuous membranes. Exposure may cause central nervous system symptoms similar to those listed under Ingestion.

N- Methylpyrrolidone

May cause respiratory tract irritation.

Linear alkyl phenyl ethoxylates

Vapors or mist, expecially as generated from heating the material or as from exposure in poorly ventilated areas or confined spaces, may be irritating and cause discomfort in nose and throat. Prolonged exposure may cause difficulty breathing.

Ingestion

Solvent Naphtha, Light Aromatic

MODERATELY TOXIC. May cause irritation of the mouth, throat, and gastrointestinal tract. Aspiration into lungs may cause chemical pneumonia and lung damage. Aspiration symptoms may be delayed in onset by up to 24 hours. Exposure may also cause central nervous system symptoms similar to those listed under Signs and Symptoms of Overexposure - Inhalation. See also Reproductive Toxicity and Target Organ Statement for further special toxic effects.

Methanol

Primary toxic effects are metabolic acidosis and visual system damage. Visual system damage may progress from visual blurring to complete blindness. May cause harmful central nervous system effects which may be delayed.

N- Methylpyrrolidone

May be harmful by ingestion.

Linear alkyl phenyl ethoxylates

May be harmful by ingestion.

Skin

Solvent Naphtha, Light Aromatic

SLIGHTLY IRRITATING. Contact may cause reddening, itching and inflammation. Repeated or prolonged skin contact may cause reddening, itching and inflammation. Defatting agent.

Methanol

Absorption from prolonged or massive skin contact may cause poisoning. Repeated or prolonged contact may result in defatting, redness, itching, inflammation, cracking and possible secondary infection. Exposure may cause symptoms similar to those listed under ingestion.

N- Methylpyrrolidone

Repeated and prolonged skin contact may lead to skin irrtation. May cause redness and blistering.

Linear alkyl phenyl ethoxylates

Brief contact may cause slight irritation. Prolonged contact, as with clothing wetted with material, may cause more severe irritation and discomfort.

Eyes

Solvent Naphtha, Light Aromatic

SLIGHTLY IRRITATING. Exposure to vapors, fumes or mists may cause irritation. Direct contact may cause irritation, redness, tearing, and blurred vision. Prolonged or repeated exposure may cause irritation and conjunctivitis.

Methanol

Exposure to liquid, vapors, fumes or mists may cause irritation. Direct contact may cause irritation, pain, corneal inflammation and possible corneal damage.

N- Methylpyrrolidone

Causes moderate eye irritation.

Linear alkyl phenyl ethoxylates

Causes irritation and possible injury to the cornea.

Carcinogenicity

Solvent Naphtha, Light Aromatic

Benzene, a known carcinogen, may be present in trace amounts, less than 50 ppm. Otherwise, there are no known or anticipated carcinogens present in Naphtha.

Methanol

This component is not listed as a carcinogen by NTP or IARC.

N- Methylpyrrolidone

This component is not listed as a carcinogen by NTP or IARC.

Linear alkyl phenyl ethoxylates

Not listed by NTP or IARC as a known or possible carcinogen.

Mutagenicity

Solvent Naphtha, Light Aromatic

No information available.

Methanol

No information available.

N- Methylpyrrolidone

Non-mutagenic (Ames Assay)

Linear alkyl phenyl ethoxylates

No information available.

Reproductive Toxicity

Solvent Naphtha, Light Aromatic

This product contains components which may cause adverse reproductive effects. Pregnant women may be at an increased risk from exposure. Consumption of alcoholic beverages may enhance toxic effects.

Methanol

Possible reproductive hazard.

N- Methylpyrrolidone

No information available.

Linear alkyl phenyl ethoxylates

No information available.

Teratogenic Effects

Solvent Naphtha, Light Aromatic

This product contains components which may cause adverse developmental effects. Pregnant women may be at an increased risk from exposure. Consumption of alcoholic beverages may enhance toxic effects.

Methanol

No information available.

N- Methylpyrrolidone
No information available.

Linear alkyl phenyl ethoxylates
No information available.

Routes of Entry

Solvent Naphtha, Light Aromatic
Inhalation, ingestion, or skin contact.

Methanol
Inhalation, ingestion, or skin contact.

N- Methylpyrrolidone
Eyes, skin and inhalation

Linear alkyl phenyl ethoxylates
Ingestion, inhalation.

Target Organ Statement

Solvent Naphtha, Light Aromatic
Acute or chronic overexposure to this material or its components may cause systemic toxicity, including adverse effects to the following: kidney, liver, spleen, adrenals, thymus and central nervous system. Pre-existing medical conditions which may be aggravated by exposure include disorders of the skin, kidney, liver, cardiovascular and respiratory systems.

Methanol
Chronic intoxication may cause degenerative changes in liver, kidneys, brain, gastrointestinal tract, and heart muscle. Persons with pre-existing liver impairment, skin and respiratory disorders may be at an increased risk from exposure.

N- Methylpyrrolidone
Causes moderate ey irrtation and mild skin irritation.

Linear alkyl phenyl ethoxylates
No information available.

SECTION 12 - ECOLOGICAL INFOMATION

12.1 Toxicity

COMPONENT: Solvent Naphtha, Light Aromatic

	Vertebrates	Invertebrates	Algae	Microorganisms
Aquatic Toxicity (ppm unless otherwise noted)	LL50 (96 hr, fathead minnow) 8.2mg/l	EL50 (48hr, daphnia) 4.5mg/l	EL50 3.1mg/l	EL50 15mg/l

	Birds	Arthropods	Plants	Microorganisms
Terrestrial Environment Toxicity (ppm unless otherwise noted)	No data	PNEC 0.4-20 mg/l	PNEC 0.4-20 mg/l	PNEC 0.4-20 mg/l

COMPONENT: Methanol

	Vertebrates	Invertebrates	Algae	Microorganisms
Aquatic Toxicity (ppm unless otherwise noted)	LC50 (96hr, bluegill) 15400 mg/L	EC50 (48 hr, daphnia) > 10000 mg/L	EC50 (96 hr) 22000 mg/L	IC50 (3hr) > 1000 mg/L

	Birds	Arthropods	Plants	Microorganisms
Terrestrial Environment Toxicity (ppm unless otherwise noted)	IC50 (3 day, sativa) 41000 mg/L	No data	No data	No data

COMPONENT: N- Methylpyrrolidone

	Vertebrates	Invertebrates	Algae	Microorganisms
Aquatic Toxicity (ppm unless otherwise noted)	LC50 (96hr rainbow trout)?500mg/l	EC50 (96 hr, grass shrimp) 1107 mg/l	EC50 600mg/l	EC50 (30 min) >600mg/l

	Birds	Arthropods	Plants	Microorganisms
Terrestrial Environment Toxicity (ppm unless otherwise noted)	LC50 (5 day, mallard duck) >74mg/kg/day	No data	No data	No data

COMPONENT: Linear alkyl phenyl ethoxylates

	Vertebrates	Invertebrates	Algae	Microorganisms

Aquatic Toxicity (ppm unless otherwise noted)	No data	LC50 (48hr daphnia) 1.8mg/l	No data	EC50 (48hr) 50mg/l

	Birds	Arthropods	Plants	Microorganisms
Terrestrial Environment Toxicity (ppm unless otherwise noted)	No data	No data	No data	No data

12.2 Persistence and Degradability

Solvent Naphtha, Light Aromatic
Inherently biodegradable: 74% elimination in 28 days

Methanol
Readily biodegradable (95% elimination in 20 days)

N- Methylpyrrolidone
Readily biodegradable: 73% elimination in 28 days.

Linear alkyl phenyl ethoxylates
Readily biodegradable: 97% elimination in 30 days.

12.3 Bioaccumulative Potential

Solvent Naphtha, Light Aromatic
No data

Methanol
BCF<10

N- Methylpyrrolidone
No data

Linear alkyl phenyl ethoxylates
No data

12.4 Mobility in Soil

Solvent Naphtha, Light Aromatic
log Koc ~2

Methanol
Koc <1

N- Methylpyrrolidone
log Koc 1.32

Linear alkyl phenyl ethoxylates
No data

12.5 Results of PBT and vPvB Assessment

Solvent Naphtha, Light Aromatic
not PBT / vPvB

Methanol
not PBT or vPvB

N- Methylpyrrolidone
not PBT / vPvB

Linear alkyl phenyl ethoxylates
substance is PBT / vPvB

12.6 Other Adverse Effects

Solvent Naphtha, Light Aromatic
None

Methanol
None

N- Methylpyrrolidone

None

Linear alkyl phenyl ethoxylates
None

SECTION 13 - DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods

Offer surplus or non-recyclable product to licensed disposal company. Disposal is subject to user compliance with applicable law and product characteristics at time of disposal. Dispose of packaging as product.

SECTION 14 - TRANSPORT INFORMATION

	ADR/RID	IATA	IMO	DOT
14.1 UN Number	1268	1268	1268	N.A.
14.2 Shipping Name	Petroleum Products N.O.S. (Naphtha Solvent)	Petroleum Products N.O.S.	Petroleum Products N.O.S. (Naphtha Solvent)	Not regulated.
14.3 Hazard Class	3	3	3	N.A.
14.4 Packing Group	III	III	III	N.A.
14.5 Environmental Hazards	N.A.	N.A.	Not regulated	N.A.
14.6 Special Precautions	N.A.	N.A.	N.A.	N.A.

SECTION 15 - REGULATORY INFORMATION

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance/Mixture

United States

TSCA Regulatory Statement
All intentional ingredients are listed on the TSCA Inventory.

SARA 311/312 Hazard Categories

Component	Fire	Pressure	Reactivity	Acute	Chronic
Solvent Naphtha, Light Aromatic	Yes	No	No	Yes	Yes
Methanol	Yes	No	No	Yes	Yes
N- Methylpyrrolidone	Yes	No	No	Yes	No
Linear alkyl phenyl ethoxylates	No	No	No	Yes	No

Europe

EEC Regulatory
All intentional ingredients are listed on the European EINECS Inventory.

SECTION 16 - OTHER INFORMATION

Revisional Updates

8/8/2023 - Updated Section 14.5
4/26/2019 - Updated Section 1.4
2/10/2016 - Released Version 1.0

NFPA Codes

Health 1 **Flammability** 2 **Reactivity** 0

Dangers

Solvent Naphtha, Light Aromatic
H226 - Flammable liquid and vapor.
H304 - May be fatal if swallowed and enters airways.
H315 - Causes skin irritation.
H336 - May cause drowsiness or dizziness.
H411 - Toxic to aquatic life with long lasting effects.

Methanol
H225 - Highly flammable liquid and vapor.
H301 - Toxic if swallowed
H311 - Toxic in contact with skin.
H331 - Toxic if inhaled.
H371 - May cause damage to organs.

N- Methylpyrrolidone
H315 - Causes skin irritation.

H319 - Causes serious eye irritation.
H335 - May cause respiratory irritation.
H360 - May damage fertility or the unborn child.

Linear alkyl phenyl ethoxylates
H302 - Harmful if swallowed
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
H411 - Toxic to aquatic life with long lasting effects.

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