EnSolv Plus A

SAFETY DATA SHEET
Preparation Date: November 15, 2023

1. Product and Company Identification

Product Name:	***EnSolv Plus A***
Product Description:	Precision cleaning solvent. **FOR INDUSTRIAL USE ONLY - NOT FOR CONSUMER SALE OR USE**
Product General Use:	Industrial use solvent for precision vapor degreasing, ultrasonic cleaning and other applications where worker exposure is controlled.
Manufacturer:	Enviro Tech International, Inc.
1	800 N 25th Avenue Melrose Park, IL 60160 708-343-6641 www.envirotechint.com
Contact:	sales@envirotechint.com
Emergency Contact:	Velocity EHS 24-HR EMERGENCY CONTACT U.S. & Canada,(800) 255-3924 - INTERNATIONAL CALLS: +01-813-248-0585. Non-Emergency (708) 344-6641 Hours: Mon-Fri 8am-4pm CST

2. HAZARD IDENTIFICATION

Emergency Overview
This product has no flash point and is non-flammable per OSHA and DOT regulations. (OSHA 2021). Vapors may form a flammable mixture at a concentration of 9.7% to 12.8 % by volume with air based on 1,2 trans-dichloroethylene (ASTM E-681).

Classification

Acute Toxicity - Inhalation	Cat 4
Acute Toxicity - Oral	Cat 4
Serious eye damage/irritation	Cat 2
Aspiration Hazard,	Cat 1
Specific target organ toxicity single exposure	Cat 3 (respiratory tract irritation)
Aquatic Hazard (Long Term),	Cat 3

Signal Word: Danger

Hazard Statements
H332 Harmful if inhaled.
May cause respiratory irritation
Harmful if swallowed
May be fatal if swallowed and enter airways
Causes serious eye irritation
H304 Aspiration hazard
H412 Harmful to aquatic life with long lasting effects.

Precautionary Statements

P210 Keep away from heat/sparks/open flames/hot surfaces, no smoking.
P233 Keep container tightly closed.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing vapors
P271 Use only outdoors or in a well-ventilated area
P273 Avoid release to the environment
P280 Wear protective gloves/eye protection/face protection

Response:

P301 + P310 + P331	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Do NOT induce vomiting.
P308 + P313	IF EXPOSED or concerned: Get medical advice/attention
P305 + P351 + P338 + P337	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313	If eye irritation persists, get medical advice/attention
P303 + P361 + P353 + P352	IF ON SKIN: remove immediately all contaminated clothing. Wash with plenty of soap and water.
P332 + P313	If skin irritation occurs, get medical advice/attention.
P304 + P340	IF INHALED: Remove individual to fresh air and keep at rest in a position comfortable for breathing.
P306 + P361+ P363	IF ON CLOTHING: remove all contaminated clothing immediately. Wash contaminated clothing before reuse

Storage & Disposal:

P403	Store in a dry place. Store indoors.
P404 + P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/container in accordance with Federal, state and local regulations.

3. COMPOSITION

INGREDIENT	CAS	PERCENT
trans-1,2-dichloroethylene	156-60-5	> 75 %
Proprietary Fluorinated Compound	Trade Secret	> 20 %
Isopropanol	67-63-0	< 4 %

Specific components and/or amounts of components comprise Trade Secrets per 1920.1200(i)(1)

4. FIRST AID MEASURES

Inhalation	Remove person to fresh air. Give oxygen if breathing is difficult. Apply CPR respiration if individual is not breathing.
Ingestion	Gently wipe or rinse the inside of the mouth with water. Sips of water may be given if person is fully conscious. Never give anything by mouth to an unconscious or convulsing person. Do not induce vomiting. Contact a poison control center, emergency room or physician right away as further treatment will be necessary.
Skin Contact	Run a gentle stream of water over the affected area for 15 minutes. A mild soap may be used if available. If any symptoms persist,

	contact a poison control center, emergency room, or physician as further treatment may be necessary.
Eye Contact	Remove contact lens and pour a gentle stream of warm water through the affected eye for at least 15 minutes. If irritation persists, contact a poison control center, emergency room, or physician as further treatment may be necessary.
Notes to Physician	Do not give adrenaline or similar drugs. Because of possible disturbances of cardia rhythm, catecholamine drugs, such as epinephrine, that may be used in situations of emergency life support should be used with special caution.

5. FIRE FIGHTING MEASURES

Flash point (Mixture)	None (See Section 9)
Extinguishing Media	Dry Chemical Extinguisher (B-C), Water Spray, Carbon Dioxide or appropriate foam.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Hazardous combustion products	Thermal decomposition or combustion may liberate hydrogen chloride, chlorinated hydrocarbons, carbonyl chloride, carbon oxides and other toxic gases or vapors.
Special Fire Fighting Procedures	Keep run-off water out of sewers and water sources. Dike for water control. Product may emits toxic fumes under fire conditions. Vapor concentration in a confined or poorly ventilated area can be ignited upon contact with a high energy spark, flame, or high intensity source of heat. Vapors may travel a considerable distance to source of ignition and flash back. Vapor/air mixtures are explosive.
Protective Equipment For Fire-Fighters	Fire-fighters must wear NIOSH approved self-contained breathing apparatus and full protective clothing when fighting chemical fires.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Keep unnecessary personal away from the area. Wear protective clothing as described in Section 8 of this safety data sheet.
Environmental Precautions	Do not discharge into drains, water courses or onto the ground. Contain spillages with sand, earth or any suitable adsorbent material.
Spill Clean Up Methods	Immediately evacuate the area. Only personnel equipped with proper respiratory and eye/skin protection should be permitted in the area. Provide maximum ventilation. Dike area to contain spill. Take precautions as necessary to prevent contamination of ground and surface waters. Recover spilled material on adsorbents, such as sawdust or vermiculite and sweep into closed containers for disposal. After all visible traces, including ignitable vapors, have been removed, thoroughly wet vacuum the area. Do not

	flush to sewer. If area of spill is porous, remove as much earth and gravel, etc. as necessary and place in closed containers for disposal. Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center.
Reference to other sections	For personal protection, see Section 8. For waste disposal, see Section 13

7. HANDLING AND STORAGE

Handling	Do not use cutting or welding torches on drums that contained this product unless properly purged and cleaned. Vapors are heavier than air and will collect in low areas. This material can react with air to form explosive peroxide. Do not use in poorly ventilated or confined spaces without proper respiratory protection.
Storage	Keep container closed when not in use. Store only in closed, properly labeled containers.

8. EXPOSURE CONTROL AND PERSONAL PROTECTION

Exposure Limits:	1, 2-trans-Dichloroethylene	OSHA PEL 200 ppm
		ACGIH TLV 200 ppm
		CAL OSHA 200 ppm
	Isopropanol	OSHA PEL 400 ppm
		ACGIH TLV 200 ppm
		CAL OSHA 400 ppm
	Proprietary Fluorinated Compound:	MFR WEL 75 ppm
Respiratory	Recommended: Full face mask with NIOSH/MSHA approved/equivalent organic vapor respirator.	
Clothing/gloves	Wear approved gloves when handling this product. Use Viton or Silvershield gloves for extended protection. Nitrile, neoprene or butyl gloves offer less protection and should be used only for splash protection. **DO NOT** use natural rubber, cloth or synthetic material gloves when handling this product.	
Eye Protection	Recommended: Ful Face mask at all times. Wear approved safety goggles with side shields. Use face shield where possibility of face contact due to splashing, spraying or other airborne contact exists.	
Skin Protection	Wear apron or protective clothing in case of splashes.	
Hygienic Practices	Do not eat, drink or smoke while working with this product. Launder soiled clothes. Provide emergency eye bath and safety shower. Handle in accordance with good industrial hygiene and safety practice.	
Engineering Controls	Safety shower, eye wash stations. Provide adequate general and local exhaust ventilation.	

9. PHYSICAL AND CHEMICAL PROPERTIES

Flash Point (Method):	None
Lower Explosion Limit:	9.7%

Upper Explosion Limit:	12.8%
Physical State:	Liquid
Color:	Colorless
Odor:	Characteristic
Boiling Point:	
Vapor Pressure:	
Vapor Density (Air=1):	
Specific Gravity (Water=1):	
Water Solubility@ 70 F:	
Evaporation Rate:	

10. STABILITY AND REACTIVITY

Stability	Stable under normal temperature conditions and recommended use.
Chemical Stability	The product is chemically stable. No decomposition if stored and applied as directed.
Conditions To Avoid	Avoid open flames and other sources of ignition. Avoid high temperatures.
Incompatible Materials	Steam, oxidizers, caustic soda, caustic potash. Shock sensitive compounds may be formed.
Hazardous Decomposition	Hydrogen chloride gas. Oxides of carbon.

11. TOXICOLOGICAL INFORMATION

1,2 trans-dichloroethylene

Acute Inhalation LC_{50}:	(rat) 24,100 ppm (4 hours). Slight to very low toxicity.
Acute Dermal LD_{50}:	(rabbit) > 5,000 mg/kg. Slight to very low toxicity.
Skin Irritation:	Mildly to moderately irritating.
Eye Irritation:	Moderately to severely irritating.
Acute Oral LD_{50}:	Slight to very low toxicity.
Chronic Effects/Carcinogenicity:	NOT listed as a carcinogen by NTP, IARC, or OSHA.
Medical Conditions Aggravated:	None known.
Effects of overexposure:	
ACUTE	
Inhalation:	This product is a central nervous system depressant. Inhalation can cause irritation of the respiratory tract, dizziness nausea, headache, loss of coordination and equilibrium, unconsciousness and even death in confined or poorly ventilated areas. Cardiac sensitization has occurred in dogs dosed at concentrations greater than 25%.
Eye/Skin:	Eye contact can result in discomfort, pain, irritation and discharge. Washing of the eyes with water may result in corneal injury. Prolonged contact such as occurs when material is trapped on the skin (e.g. under a glove) may result in severe irritation. Skin absorption is not expected to be of toxicological significance under normal industrial use.
Ingestion:	Swallowing may irritate the mouth and GI tract as well as cause the effects listed for inhalation exposure. Vomiting may cause aspiration into the lungs that may lead to potentially fatal chemical pneumonia and pulmonary edema.

SUBCHRONIC	A 90-day inhalation study exposing rats to 1,2-dichloroethylene reported no adverse effects on body weight, clinical observations, food consumption, clinical or anatomical pathology parameters, or liver cell proliferation. The no - observed-effect level (NOEL) for this study was 4000 ppm in rats that suggests a low order of toxicity by the inhalation. In an NTP study, rats and mice were dose fed for a period of 13 weeks. No mortality, clinical observations of toxicity, or food consumption effects was noted in mice or rats. Minor reductions in body weights were observed in mice. Liver organ weights changes were reported in rats. Rats dosed at the highest level (50,000 ppm) showed a few abnormal clinical pathology findings. Histopathology reports revealed no microscopic evidence of treatment-related target organ effects. In separate 90-day drinking water studies, 1,2-dichloroethylene exposed rats and mice showed no dose related effects in hematological, serological, and gross pathological, or urinary parameters.
Mutagenesis:	Trans-1,2-dichloroethylene was not mutagenic to E-coli or S. Typhimurium when tested with microsomal activation. In another study, trans-1,2-dichloroethylene did not product mutations in Saccharomyces cerevisiae with or without microsomal activation. No genetic effects were reported in a vivo host mediated mutagenic assay.
Reproductive/Developmental:	In a teratology study conducted in rats by the inhalation route of exposure, significant fetal toxicity(i.e., decreased body weight, increased skeletal variations) was observed only at maternally toxic concentrations (12,000 ppm). Based on the results of this study, trans-1,2-dichloroethylene would not be considered to be a developmental toxicant.

Proprietary Fluorinated Compound

Inhalation	No adverse effects are expected LC_{50} > 10,000 ppm ans , 20,000 ppm
Skin Contact	No adverse effects are expected. Mild irritant (Rabbit). No skin sensitization.
Eye Contact	Direct contact with eyes may cause temporary irritation. Mild irritant (Rabbit)
Ingestion	Expected to be low ingestion hazard
Carcinogenicity	
Ames test	Negative (OECD 471)
Chromosome aberration	Negative (OECD 473)
In vivo cell mutation	Negative (HPRT)
Germ Cell Micronucleus	Negative

isopropanol

Carcinogenicity:	**NTP**	**IARC**	**OSHA**
Isopropyl alcohol	No	Group 3	No

Routes of Entry:	Absorbed through skin. Dermal contact. Eye contact. Inhalation.
Toxicity to Animals:	
Acute oral toxicity LD_{50}:	3,600 mg/kg [Mouse] 4 hr
Acute dermal toxicity LD_{50}:	12,800 mg/kg [Rabbit] 4 hr
Acute toxicity of the vapor LC_{50}:	16,000 8 hours [Rat]
DEVELOPMENTAL TOXICITY:	Classified Reproductive system/toxin/female, Development toxin [POSSIBLE]. May cause damage to the following organs: kidneys, liver, skin, central nervous system (CNS).
Other Toxic Effects on Humans	Hazardous in case of ingestion, of inhalation. Slightly hazardous in case of skin contact (irritant, sensitizer, permeator).
Special Remarks on Chronic Effects Humans	May cause adverse reproductive/teratogenic effects (fertility, fetoxicity, developmental abnormalities (developmental toxin)) based on animal studies. Detected in maternal milk in human. (Isopropyl alcohol)
Special Remarks on other Toxic Effects on Humans	
Acute Potential Health Effects**:**	
Skin	May cause mild skin irritation, and sensitization.
Eyes	Can cause eye irritation.
Inhalation	Breathing in small amounts of this material during normal handling is not likely to cause harmful effects. However, breathing large amounts may be harmful and may affect the respiratory system and mucous membranes (irritation), behavior and brain (Central nervous system depression - headache, dizziness, drowsiness, stupor, unconsciousness, coma and possible death, peripheral nerve and sensation, blood , urinary system, and liver .
Ingestion	Swallowing small amounts during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful. Swallowing large amounts may cause gastrointestinal tract irritation with nausea, vomiting and diarrhea, abdominal pain.

12. ECOLOGICAL INFORMATION

1,2 trans-dichloroethylene

INVERTEBRATE TOXICITY:	<110,000 ug/L 48 hour(s) (Mortality) Water flea (Daphnia magna)
Fish LC_{50}	≥ 120 mg/l 96 hours Bluegill
Partition Coefficient n-octanol/water (log Kow)	2.06

Mobility in Soil	No data available

Proprietary Fluorinate Compound
The product is not classified as environmentally hazardous.

Algae EC_{50}	> 68 mg/I, 72 hours(Algal growth inhibition
Crustacea EC_{50}	55.9 mg/I, 48 hours Daphnia (Immobilization Test)
Fish LC_{50}	88.3 mg/I, 96 hours
Bioaccumulative potential	No data is available on the degradability of any ingredients in the mixture.
Bioconcentration factor (BCF)	1.9 logPow Result: Will not bio-accumulate.
Mobility in soil	No data available

Isopropanol

Ecotoxicity in water (LC50):	100,000 mg/l 96 hours [Fathead Minnow]. 64,000 mg/l 96 hours [Fathead Minnow].
BOD5 and COD	Not available.
Products of Biodegradation	Possibly hazardous short-term degradation products are not likely. However, long-term degradation products may arise.
Toxicity of the Products of Biodegradation	The product itself and its products of degradation are not toxic.
Special Remarks on the Products of Biodegradation	Not available.

13. DISPOSAL CONSIDERATIONS

Contaminated sand, sawdust, vermiculite, soil or porous surface must be disposed of in a permitted hazardous waste management facility. Recovered liquids may be reprocessed or incinerated or must be treated in a permitted hazardous waste management facility. Care must be taken when using or disposing of chemical materials and/or their containers to prevent environmental contamination. It is your duty to dispose of the chemical materials and/or their containers in accordance with the Clean Air Act, the Clean Water Act, the Resource Conservation and Recovery Act, as well as any other relevant Federal, State, or local laws/regulations regarding disposal.

14. TRANSPORTATION INFORMATION

Proper Shipping Name:	Non-Hazardous Industrial Cleaning Solvent Mixture
DOT:	Not regulated for transportation
IATA:	Not regulated for transportation
IMDG:	Not regulated for transportation

15. REGULATORY INFORMATION

1,2 trans-dichloroethylene

USA TSCA:	Listed and active on the TSCA Inventory. TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D) Trans-1 ,2-Dichloroethylene (CAS 156-60-5) 1.0 % One-Time Export Notification only.

SARA 311, 312:	YES Acute toxicity (all routes of expoosure) Serious eye damage or irritation Specific target organ toxicity (single or repeated dose) Aspiration Hazard
SARA 313 Reporting:	Yes
SARA 302:	Not listed.
SARA 304	Not regulated
CERCLA Hazardous Substance:	Listed in Table 302.4 of 40 CFR Part 302 as a hazardous substance with an RQ (reportable quantity) of 1,000 pounds. Releases to air, land or water which exceed the RQ must be reported to the National Response Center, 800-424-8802.
RCRA:	Waste and contaminated soils/materials from spill cleanup are U079 hazardous waste as per 40 CFR261.33 and must be disposed of accordingly under RCRA.
USEPA SNAP:	Approved
CAA Section 112 HAP	Not listed
CAA Section 112r	Not regulated
Safe Drinking Water Act	Regulated
California Prop 65	Not Listed
California Candidate Chemicals List.	
Safer Consumer Products Regulations	Listed
RIGHT TO KNOW	Massachusetts, Pennsylvania

International

Europe Einecs:	Listed on EINECS
Europe (ELINCS)	Not Listed
Australia AICS:	Listed
Korea ECL:	Listed
Canada (NDSL):	Listed
Canada (DSL)	Not Listed
China (IECSC)	Listed
Japan (ENCS)	Listed
New Zealand Inventory	Listed
Philippines (PICCS)	Listed
Taiwan (TCSI)	Listed

Proprietary Fluorinated Compound

USA TSCA:	Listed and active on the TSCA Inventory.
SARA (311, 312) Hazard Class:	Not Listed
SARA (313) Reporting:	No
SARA Extremely Hazardous Substance:	Not listed
CERCLA Hazardous Substance:	Not listed
RCRA:	Not listed
California Prop 65	Not listed

Isopropanol

USA TSCA:	Listed and active on the TSCA Inventory. No export notification required.
SARA 302 :	No
SARA 304	Not regulated
SARA 313 Reporting:	Yes
SARA 311/312 Hazards:	Fire Hazard (as a neat substance. This mixture is NOT flammable.) Acute Health Hazard Chronic Health Hazard
SARA Extremely Hazardous Substance:	Not listed
California Prop 65	Not listed
Right to Know:	Rhode Island, Pennsylvania, Florida, Minnesota, Massachusetts, New Jersey. Illinois toxic substances disclosure to employee act. Connecticut hazardous material survey

International

Canada DSL	Listed
Canada NPRI Ingredient disclosure (1%)	Listed 67-63-0 Isopropanol
Europe Einecs:	Listed on EINECS
Australia AICS:	Listed
Korea KECI:	Listed
China (IECSC)	Listed
Japan (ENCS & ISHL)	Listed
New Zealand NZloC	Listed
Philippines (PICCS)	Listed
Taiwan (TCSI)	Listed
Turkey	Listed

16. OTHER INFORMATION

Only trained personnel should use this material. Since empty containers retain product residue, follow label warnings, even after container is emptied. For further Health and Safety information contact: Health and Safety Officer. Each user of this product should study this SDS carefully and consult appropriate expertise as necessary to become aware of and understand the data contained in this SDS and any hazards that may be associated with this product. The information provided in this Safety Data Sheet relates only to the specific material designated herein. The user is responsible for determining the conditions of safe use of this product and for complying with all Federal, State and Local governmental laws and regulations concerning its use. Enviro Tech International, Inc. makes no warranty, express or implied, including the warranty of merchantability and fitness for a particular purpose, and assumes no liability or responsibility for the accuracy, completeness, timeliness or usefulness of this information. Enviro Tech International, Inc. assumes no liability for any damages incurred, whether directly or indirectly, as a result of any errors, omissions or discrepancies in this information. Enviro Tech International, Inc. assumes no liability for reliance on this data and assumes no liability for damages related to the use or misuse of this product.

NFPA Rating:	Health: 2	Flammability: 1	Instability: 0
HMIS Rating:	Health: 2	Flammability: 1	Physical Hazard: 0

DATE: November 15, 2023