

SAFETY DATA SHEET

According to Regulation (EC) No 1907/2006 (REACH)

1. PRODUCT IDENTIFICATION

Trade Name(s): XT1 Premix (Part A)
Product Description: Liquid applied urethane coating
Synonyms: N/A
CAS No: N/A

Supplier:
EPRO Services, Inc.
PO Box 347
Derby, KS 67037
800-882-1896 (8:00am – 5:00pm CST)

2. HAZARD(S) IDENTIFICATION

Physical hazards

Flammable liquids: Category 3

Health hazards

Germ cell mutagenicity: Category 1B

Carcinogenicity: Category 1B

Specific target organ toxicity, repeated exposure: Category 1 (central nervous system)

Aspiration hazard: Category 1

Environmental hazards

Hazardous to the aquatic environment, acute hazard: Category 3

Hazardous to the aquatic environment, long-term hazard: Category 3

OSHA defined hazards: Not classified.

Label elements



Signal word: Danger

Hazard statement: Flammable liquid and vapor. May be fatal if swallowed or enters airways. May cause genetic defects. May cause cancer. Causes damage to organs (central nervous system) through prolonged or repeated exposure. Harmful to aquatic life with long lasting effects.

Precautionary statement

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Take precautionary measures against static discharge. Do not breathe mist or vapor. Wash

thoroughly after handling. Do not eat, drink, or smoke when using this product. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response: If swallowed, immediately call a poison center/doctor. Do NOT induce vomiting. If exposed or concerned, get medical advice/attention. In case of fire, use appropriate media to extinguish.

Storage: Store in a well-ventilated place. Keep cool. Store locked up.

Disposal: Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazards not otherwise classified (HNOC): Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

Supplemental information: 95.97% of the mixture consists of components of unknown acute oral toxicity. 98.79% of the mixture consist of components of unknown acute dermal toxicity. 88.83% of the mixture consist of components of unknown acute inhalation toxicity. 91.65% of the mixture consists of components of unknown acute hazards to the aquatic environment. 91.65% of the mixture consists of components of unknown long-term hazards to the aquatic environment.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

<u>Chemical Name</u>	<u>CAS No.</u>	<u>%</u>
Asphalt (common name – Asphalt (Bitumen))		40 - < 50
Distillates (petroleum), Hydrotreated Light	64742-47-8	5 - < 10
Stoddard solvent	8052-41-3	1 - < 3
Carbon Black	1333-86-4	1 - < 3
Solvent naphtha (petroleum), medium aliphatic	64742-88-7	< 0.3
Gilsonite	12002-43-6	< 0.2

Other components below reportable levels

*Designate that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

Inhalation: Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact: Remove contaminated clothing immediately and wash skin with soap and water/shower. Get medical attention if irritation develops and persists. Wash contaminated clothing before reuse.

Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses. If present and easy to do. Continue rinsing. Get medical attention if irritation develop and persists.

Ingestion: Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content does not get into the lungs.

Most important symptoms/effects, acute and delayed: Aspiration may cause pulmonary edema and pneumonitis. Narcosis. Behavioral changes. Decrease in motor functions. Direct contact with eyes may cause temporary irritation. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed: Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

General information: Take off all contaminated clothing immediately. If exposed or concerned, get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the materials involved and take precautions to protect themselves. Show this SDS to the doctor in attendance. Wash contaminated clothing before reuse.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Water fog. Foam. Carbon dioxide (CO₂). Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

Unsuitable extinguishing media: Do not use water jet as an extinguisher as this will spread the fire.

Specific hazards arising from the chemical: Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. This liquid may accumulate static electricity when filling properly grounded containers. Static electricity accumulation may significantly increase by the presence of small quantities of water or other contaminants. Material will float and may ignite on surface of water. During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Firefighting equipment/instructions: In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

Specific methods: Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards: Flammable liquid and vapor.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures: Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged container or spilled material unless wearing appropriate protective clothing. Ventilate closed space before entering them. Use appropriate containment to avoid environmental contamination. Transfer by mechanical means such as vacuum truck to a salvage tank or other suitable container for recovery or safe disposal. Local authorities should be advised if significant spillages cannot be contained. For personal protection see section 8 of the SDS.

Methods and materials for containment and cleaning up: Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. Prevent product from entering drains. Large spills: Stop the flow of material if this is without risk. Dike the spilled material where possible. Use a non-combustible material like vermiculite, dry sand, or earth to soak up product and place into containers for later disposal. Clean surface thoroughly to remove residual contamination. Small spills: Absorb with earth, sand, or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Environmental precautions: Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses, or onto the ground. Use appropriate containment to avoid environmental contamination.

7. HANDLING AND STORAGE

Precautions for safe handling: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not handle, store, or open near an open flame, sources of heat or source of ignition. Protect material from direct sunlight. Minimize fire risks from flammable and combustible materials (including combustible dust and static accumulating liquids) or dangerous reaction with incompatible materials. Handling operation that can promote accumulation of static charges include but are

not limited to mixing, filtering, pumping at high flow rates, splash filling, creating mists or sprays, tank and container filling, tank cleaning, sampling, gauging, switch loading, vacuum truck operations. Take precautionary measure against static discharges. All equipment used when handling the product must be grounded. Avoid prolonged exposure. When using, do not eat, drink, or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities: Store locked up. Keep away from heat, sparks, and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Eliminate sources of ignition. Avoid spark promoters. These alone may be insufficient to remove static electricity. Store in a cool, dry place out of direct sunlight. Store in tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of SDS).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLB or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

<u>Components</u>	<u>Type</u>	<u>Value</u>
Carbon Black (CAS 1333-86-4)	PEL	3.5 mg/m ³
Distillates (petroleum), Hydrotreated Light (CAS 64742-47-8)	PEL	400 mg/m ³ 100 ppm
Solvent naphtha (petroleum), medium aliphatic (CAS 64742-88-7)	PEL	400 mg/m ³ 100 ppm
Stoddard solvent (CAS 8052-41-3)	PEL	2900 mg/m ³ 500 ppm

US ACGIH Threshold Limit Values

<u>Components</u>		<u>Type</u>	<u>Value</u>	<u>Form</u>
Asphalt	TWA		0.5 mg/m ³	Inhalable fraction
Carbon Black (CAS 1333-86-4)	TWA		3 mg/m ³	Inhalable fraction
Solvent naphtha (petroleum), medium aliphatic (CAS 64742-88-7)	TWA		200 mg/m ³	Non-aerosol
Stoddard solvent (CAS 8052-41-3)	TWA		100 ppm	

US NIOSH: Pocket Guide to Chemical Hazards

<u>Components</u>	<u>Type</u>	<u>Value</u>	<u>Form</u>
Asphalt	Ceiling	5 mg/m ³	Fume
Carbon Black (CAS 1333-86-4)	TWA	0.1 mg/m ³	
Solvent naphtha (petroleum), medium aliphatic (CAS 64742-88-7)	TWA	100 mg/m ³	
Stoddard solvent (CAS 8052-41-3)	Ceiling	1800 mg/m ³	
	TWA	350 mg/m ³	

Biological limit values: No biological exposure limits noted for the ingredients.

Exposure guidelines

US ACGIH Threshold Limit Values: Skin designation

Solvent naphtha (petroleum), medium aliphatic: Can be absorbed through the skin.

Appropriate engineering controls: Good general ventilation should be used (see CIM IG-9 for additional details). Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection: Wear safety glasses with side shields (or goggles).

Skin protection – hand: Wear appropriate chemical resistant gloves.

Skin protection – other: Wear appropriate chemical resistant clothing.

Respiratory protection: Chemical respirator with organic vapor cartridge and full facepiece.

Thermal hazards: Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations: Observe any medical surveillance requirements. When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid

Odor: Mild. Hydrocarbon-like

pH: Not available

Initial boiling point & range: 347°F (175°C) est

Evaporation rate: Not available

Flammability limit-lower %: 0.7% est

Explosive limit-lower %: 0.7% est

Vapor pressure: 3 mm Hg est

Relative density: Not available

Partition coefficient (n-octanol/water): Not available

Decomposition temperature: Not available

Density: 0.90 g/cm³

Flammability class: Combustible II est

VOC: 0.8 – 0.96 g/l

Color: Black

Odor threshold: Not available

Melting/freezing point: Not available

Flash point: 101°F (38.3°C)

Flammability (solid, gas): Not available

Flammability limit-upper %: 5% est

Explosive limit-upper %: 5% est

Vapor density: 4.9

Solubility (water): Not available

Auto-ignition temperature: 410°F (> 210°C) est

Viscosity: 3500 - 6500 cP

Explosive properties: Not explosive

Oxidizing properties: Not oxidizing

10. STABILITY AND REACTIVITY

Reactivity: The product is stable and non-reactive under normal condition of use, storage, and transport.

Chemical stability: Material is stable under normal conditions.

Possibility of hazardous reactions: No dangerous reaction known under conditions of normal use.

Conditions to avoid: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.

Avoid temperature exceeding the flash point. Contact with incompatible materials.

Incompatible materials: Strong oxidizing agents.

Hazardous decomposition products: No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation: Prolonged inhalation may be harmful.

Skin contact: No adverse effects due to skin contact are expected.

Eye contact: Direct contact with eyes may cause temporary irritation.

Ingestion: Droplet of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.

Symptoms related to the physical, chemical, and toxicological characteristics: Aspiration may cause pulmonary edema and pneumonitis. Narcosis. Behavioral changes. Decrease in motor functions.

Information on toxicological effects

Acute toxicity: May be fatal if swallowed and enters airways.

<u>Components</u>	<u>Species</u>	<u>Test Results</u>
Carbon Black (CAS 1333-86-4)		
<u>Acute</u>		
Oral		
LD50	Rat	> 8000 mg/kg
Distillates (petroleum), Hydrotreated Light (CAS 64742-47-8)		
<u>Acute</u>		
Inhalation		
LC50	Rat	61 mg/l, 4 hours
Solvent naphtha (petroleum), medium aliphatic (CAS 64742-88-7)		
<u>Acute</u>		
Inhalation		
LC50	Rat	61 mg/l, 4 hours

Skin corrosion/irritation: Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation: Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization: Not a respiratory sensitizer.

Skin sensitization: Not expected to cause skin sensitization.

Germ cell mutagenicity: May cause genetic defects.

Carcinogenicity: May cause cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

Carbon Black: 2B Possibly carcinogenic to humans

Stoddard solvent: 3 Not classifiable as to carcinogenicity to humans

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052): Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens: Not listed.

Reproductive toxicity: This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity – single exposure: Not classified.

Specific target organ toxicity – repeated exposure: Causes damage to organs (central nervous system) through prolonged or repeated exposure.

Aspiration hazard: May be fatal if swallowed and enters airways.

Chronic effects: Causes damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful.

12. ECOLOGICAL INFORMATION (non-mandatory)

Ecotoxicity: Harmful to aquatic life with long lasting effects.

<u>Product</u>	<u>Species</u>	<u>Test Results</u>
XT1 Premix		
<u>Aquatic</u>		
Crustacea EC50	Daphnia	50.7422 mg/l, 48 hrs estimated
Fish LC50	Fish	40.1232 mg/l, 96 hrs estimated

<u>Components</u>	<u>Species</u>	<u>Test Results</u>
Distillates (petroleum), Hydrotreated Light (CAS 64742-47-8)		
Aquatic		
Crustacea EC50	Water flea (Daphnia pulex)	2.7 – 5.1 mg/l, 48 hrs
Fish LC50	Rainbow trout, donaidson (Oncorhynchus mykiss)	2.9 mg/l, 96 hrs
Solvent naphtha (petroleum), medium aliphatic (CAS 64742-88-7)		
Aquatic		
Crustacea EC50	Water flea (Daphnia pulex)	2.7 – 5.1 mg/l, 48 hrs
Fish LC50	Rainbow trout, donaidson (Oncorhynchus mykiss)	8.8 mg/l, 96 hrs

Persistence and degradability: No data is available on the degradability of any ingredients in the mixture.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

Stoddard solvent: 3.16 – 7.15

Mobility in soil: No data available.

Other adverse effects: No other adverse environmental effect (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. DISPOSAL CONSIDERATIONS (non-mandatory)

Disposal instructions: Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Do not incinerate sealed containers. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. If discarded, this product is considered a RCRA ignitable waste, D001. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations: Dispose in accordance with all applicable regulations.

Hazardous waste code: D001: Waste flammable material with a flash point <140°F. Waste code should be assigned in discussion between user, producer, and waste disposal company.

Waste from residues / unused products: Dispose of in accordance with local regulations. Empty containers or liner may retain some product residues. This material and its container must be disposed of in a safe manner (see Disposal instructions).

Contaminated packaging: Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty container should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION (non-mandatory)

DOT: Not regulated as dangerous goods. This material can be reclassified as non-hazardous for DOT Transportation per 49 CFR 173.150 (f). This material can also be shipped as UN1139 Coating Solutions, Class 3, PGIII.

IATA

UN number: UN1139

UN proper shipping name: Coating solution (include surface treatments or coatings used for industrial or other purposes such as vehicle undercoating, drum or barrel lining) (Asphalt, Stoddard solvent).

Transport hazard classes

Class: 3

Subsidiary risk: -

Packing group: III

Environmental hazards: Yes

ERG Code: 3L

Special precautions for user: Read safety instructions, SDS and emergency procedures before handling.

Other information

Passenger and cargo aircraft: Allowed with restrictions.

Cargo aircraft only: Allowed with restrictions.

IMDG

US number: UN1139

UN proper shipping name: Coating Solution (includes surface treatments or coatings used for industrial Purposes such as vehicle under-coating, drum or barrel lining) (Asphalt, Stoddard solvent). Marine pollutant.

Transport hazard classes

Class: 3

Subsidiary risk: -

Packing group: III

Environmental hazards

Marine pollutant: Yes

EmS: F-E, S-E

Special precautions for user: Read safety instructions, SDS and emergency procedures before handling.

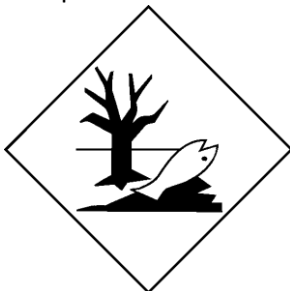
Viscous substance exemption: In pack sizes up to and including 450 litres (118 gallons), under the terms of 2.3.2.5, this product is not subject to the packaging, labeling and marking requirements of the IMDG Code, but both full documentation and placarding of cargo transport units is still required.

Transport in bulk according to Annex II of MARPO 73/78 and the IBC Code: Not established.

IATA; IMDG



Marine pollutant



15. REGULATORY INFORMATION (non-mandatory)

US federal regulations: This product is a “Hazardous Chemical” as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D): Not regulated.

CERLA Hazardous Substance List (40 CFR 302.4): Not listed.

SARA 304 Emergency release notification: Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050): Not regulated.

Superfund Amendment and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance: Not listed.

SARA 311/312 Hazardous chemical: Yes

Classified hazard categories: Flammable (gases, aerosols, liquids, or solids). Germ cell mutagenicity. Carcinogenicity. Specific target organ toxicity (single or repeated exposures). Aspiration hazard.

SARA 313 (TRI reporting): Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List: Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130): Not regulated.

Safe Drinking Water Act (SDWA): Contains components regulated under Safe Drinking Water Act.

US state regulations

California Proposition 65: Warning: California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65). This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

California Proposition 65 – CRT: Listed date/Carcinogenic substance

Carbon Black (CAS 1333-86-4): Listed February 21, 2003

US California Candidate Chemicals List. Safer Consumer Products Regulation (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Carbon Black (AS 1333-86-4)

Distillates (petroleum), Hydrotreated Light (CAS 64742-47-8)

Stoddard solvent (CAS 8052-41-3)

International Inventories

Country or region	Inventory Name	On Inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
US & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*"Yes" indicates that all components of this product comply with the inventory requirements by the governing countries. "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country.

16. OTHER INFORMATION

This information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designated only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

SAFETY DATA SHEET

According to Regulation (EC) No 1907/2006 (REACH)

1. PRODUCT IDENTIFICATION

Trade Name(s): XT1 Activator (Part B)
Product Description: Liquid applied urethane coating
Synonyms: N/A
CAS No: N/A

Supplier:
EPRO Services, Inc.
PO Box 347
Derby, KS 67037
800-882-1896 (8:00am – 5:00pm CST)

2. HAZARD(S) IDENTIFICATION

Physical hazards: Not classified

Health hazards

Acute toxicity, oral: Category 4

Skin corrosion/irritation: Category 2

Serious eye damage/eye irritation: Category 2

Sensitization, skin: Category 1

Carcinogenicity: Category 2

Specific target organ toxicity, single exposure: Category 3 respiratory tract irritation

Specific target organ toxicity, repeated exposure: Category 2

Environmental hazards: Not classified.

OSHA defined hazards: Not classified.

Label elements



Signal word: Warning

Hazard statement: Harmful if swallowed. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. May cause respiratory irritation. Suspected of causing cancer. May cause damage to organs through prolonged or repeated exposure.

Precautionary statement

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink, or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing must

not be allowed out of the workplace. Wear eye protection/face protection. Wear protective gloves/protective clothing/eye protection/face protection.

Response: If swallowed, call a poison center/doctor if you feel unwell. Rinse mouth. If on skin, wash with plenty of water. If skin irritation or rash occurs, get medical advice/attention. If inhaled, remove person to fresh air and keep comfortable for breathing. If concerned, get medical advice/attention. If in eyes, rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention. If exposed or concerned, get medical advice/attention. Take off contaminated clothing and wash before reuse.

Storage: Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal: Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazards not otherwise classified (HNOC): None known.

Supplemental information: 98% of the mixture consist of components of unknown acute oral toxicity.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

<u>Chemical Name</u>	<u>CAS No.</u>	<u>%</u>
4,4'-Methylenediphenyl Diisocyanate	26447-40-5	60 - < 70
Triethyl Phosphate; (TEP)	78-40-0	1 - < 3
Other components below reportable levels		30 - < 40

Isomer

<u>Chemical Name</u>	<u>CAS No.</u>	<u>%</u>
4,4'-Methylenediphenyl Diisocyanate	10-68-8	61 - 66

*Designate that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

Composition comments: CAS 101-68-8 is an MDI isomer that is part of CAS 26447-40-5.

4. FIRST-AID MEASURES

Inhalation: Move to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or physician if symptoms develop or persist.

Skin contact: Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders, seek medical attention and take along these instructions. Wash contaminated clothing before reuse.

Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses. If present and easy to do. Continue rinsing. Get medical attention if irritation develop and persists.

Ingestion: Rinse mouth. If vomiting occurs, keep head low so that stomach content does not get into the lungs. Get medical advice/attention if you feel unwell.

Most important symptoms/effects, acute and delayed: Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed: Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General information: If exposed or concerned, get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the materials involved and take precautions to protect themselves. Show this SDS to the doctor in attendance. Wash contaminated clothing before reuse.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Water fog. Foam. Carbon dioxide (CO₂). Dry chemical powder.

Unsuitable extinguishing media: Water. Do not use water jet as an extinguisher as this will spread the fire.

Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Firefighting equipment/instructions: Move containers from fire area if you can do so without risk.

Specific methods: Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards: No unusual fire or explosion hazards noted.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures: Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breath mist or vapor. Do not breathe mist or vapor. Do not touch damaged container or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection see section 8 of the SDS.

Methods and materials for containment and cleaning up: Large spills: Stop the flow of material if this is without risk. Dike the spilled material where possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand, or earth and place into containers. Following product recovery, flush area with water. Small spills: Absorb with earth, sand, or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions: Avoid discharge into drains, water courses, or onto the ground.

7. HANDLING AND STORAGE

Precautions for safe handling: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Provide adequate ventilation. Do not breath mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink, or smoke. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities: Store locked up. Store in tightly closed container. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of SDS).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLB or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Isomer

4,4'-Methylenediphenyl Diisocyanate
(CAS 101-68-8)

Type	Value
Ceiling	.2 mg/m ³
	0.02 ppm

US ACGIH Threshold Limit Values

<u>Isomer</u>	<u>Type</u>	<u>Value</u>
4,4'-Methylenediphenyl Diisocyanate (CAS 101-68-8)	TWA	0.005 ppm

US NIOSH: Pocket Guide to Chemical Hazards

<u>Isomer</u>	<u>Type</u>	<u>Value</u>
4,4'-Methylenediphenyl Diisocyanate (CAS 101-68-8)	Ceiling	0.2 mg/m ³
	TWA	0.02 ppm
		0.05 mg/m ³
		0.005 ppm

US Workplace Environmental Exposure Level (WEEL) Guides

<u>Components</u>	<u>Type</u>	<u>Value</u>
Triethyl Phosphate; (TEP) (CAS 78-40-0)	TWA	7.45 mg/m ³
		1 ppm

Biological limit values: No biological exposure limits noted for the ingredients.

Appropriate engineering controls: Good general ventilation should be used (typically 10 air changes per hour). Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection: Chemical respirator with organic vapor cartridge and full facepiece.

Skin protection – hand: Wear appropriate chemical resistant gloves.

Skin protection – other: Wear appropriate chemical resistant clothing. Use of impervious apron is recommended.

Respiratory protection: Use a NIOSH/MSHA approved respirator if there is risk of exposure to dust/fume At levels exceeding exposure limits. Chemical respirator with organic vapor cartridge and full facepiece.

Thermal hazards: Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations: Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid

Odor: Mild

pH: Not available

Initial boiling point & range: 597°F (313°C) decomposes

Evaporation rate: Not available

Flammability limit-lower %: Not available

Explosive limit-lower %: Not available

Vapor pressure: 0.0003 mm Hg

Relative density: Not available

Partition coefficient (n-octanol/water): Not available

Decomposition temperature: Not available

Color: Light amber

Odor threshold: Not available

Melting/freezing point: < 59°F (< 15°C)

Flash point: 425.0°F (218.3°C)

Flammability (solid, gas): Not available

Flammability limit-upper %: Not available

Explosive limit-upper %: Not available

Vapor density: Not available

Solubility (water): Not available

Auto-ignition temperature: Not available

Viscosity: Not available

Density: 9.00 lb/gal estimated
Flammability class: Combustible IIIB
Specific gravity: 1.2 estimate

Explosive properties: Not explosive
Oxidizing properties: Not oxidizing

10. STABILITY AND REACTIVITY

Reactivity: The product is stable and non-reactive under normal condition of use, storage, and transport.

Chemical stability: Material is stable under normal conditions.

Possibility of hazardous reactions: No dangerous reaction known under conditions of normal use.

Conditions to avoid: Contact with incompatible materials.

Incompatible materials: Strong oxidizing agents.

Hazardous decomposition products: No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation: May cause damage to organs through prolonged or repeated exposure by inhalation. May cause irritation to the respiratory system.

Skin contact: Causes skin irritation. May cause an allergic skin reaction.

Eye contact: Causes serious eye irritation.

Ingestion: Harmful if swallowed.

Symptoms related to the physical, chemical, and toxicological characteristics: Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

Information on toxicological effects

Acute toxicity: Harmful if swallowed. May cause an allergic skin reaction. May cause respiratory irritation.

<u>Product</u>	<u>Species</u>	<u>Test Results</u>
XT1 Activator		
<u>Acute</u>		
Dermal LD50	Guinea pig	1712 g/kg estimated
	Rabbit	1600 g/kg estimated
Inhalation LC50	Rat	705 mg/l, 4 hrs estimated
Oral LD50	Mouse	120 g/kg estimated
	Rabbit	128 g/kg estimated
	Rat	128 g/kg estimated

<u>Components</u>	<u>Species</u>	<u>Test Results</u>
Triethyl Phosphate; (TEP) (CAS 78-40-0)		
<u>Acute</u>		
Dermal LD50	Guinea pig	> 21.4 g/kg
	Rabbit	> 20 g/kg
Inhalation LC50	Rat	> 8.817 mg/l, 4 hrs
Oral LD50	Mouse	> 1.5 g/kg
	Rabbit	1.6 g/kg
	Rat	1.6 g/kg

4,4'-Methylenediphenyl Diisocyanate (CAS 101-68-8)

<u>Acute</u>		
Inhalation LC50	Rat	0.369 mg/l, 4 hours

*Estimates for product may be based on additional component data now shown.

Skin corrosion/irritation: Causes skin irritation.

Serious eye damage/eye irritation: Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization: Not a respiratory sensitizer.

Skin sensitization: May cause an allergic skin reaction.

Germ cell mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity: Suspected of causing cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

4,4'-Methylenediphenyl Diisocyanate (CAS 101-68-8): 3 Not classifiable as to carcinogenicity to humans

4,4'-Methylenediphenyl Diisocyanate (CAS 26447-40-5): 3 Not classifiable as to carcinogenicity to humans

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052): Not listed.

Reproductive toxicity: This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity – single exposure: May cause respiratory irritation.

Specific target organ toxicity – repeated exposure: May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard: Not an aspiration hazard.

Chronic effects: May cause damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful.

12. ECOLOGICAL INFORMATION (non-mandatory)

Ecotoxicity: This product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

<u>Product</u>	<u>Species</u>	<u>Test Results</u>
XT1 Activator		
<u>Aquatic</u>		
Fish LC50	Fish	88000 mg/l, 96 hrs estimated

<u>Components</u>	<u>Species</u>	<u>Test Results</u>
Triethyl Phosphate; (TEP) (CAS 78-40-0)		
<u>Aquatic</u>		
Fish LC50	Fathead minnow (Pimephales promelas)	> 100 mg/l, 96 hrs

*Estimate for product may be based on additional component data not shown.

Persistence and degradability: No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

Triethyl Phosphate; (TEP): 0.8

Mobility in soil: No data available.

Other adverse effects: No other adverse environmental effect (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. DISPOSAL CONSIDERATIONS (non-mandatory)

Disposal instructions: Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations: Dispose in accordance with all applicable regulations.

Hazardous waste code: Waste code should be assigned in discussion between user, producer, and waste disposal company.

Waste from residues / unused products: Dispose of in accordance with local regulations. Empty containers or liner may retain some product residues. This material and its container must be disposed of in a safe manner (see Disposal instructions).

Contaminated packaging: Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty container should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION (non-mandatory)

DOT: Not regulated as dangerous goods.

IATA: Not regulated as dangerous goods.

IMDG: Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPO 73/78 and the IBC Code: Not established.

15. REGULATORY INFORMATION (non-mandatory)

US federal regulations: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D): Not regulated.

4,4'-Methylenediphenyl Diisocyanate (CAS 101-68-8): Methylene Diphenyl Diisocyanate (MDI) And Related Compounds Action (RIN 2070-ZA-15)

4,4'-Methylenediphenyl Diisocyanate (CAS 26447-40-5): Methylene Diphenyl Diisocyanate (MDI) And Related Compounds Action (RIN 2070-ZA-15)

CERCLA Hazardous Substance List (40 CFR 302.4):

4,4'-Methylenediphenyl Diisocyanate (CAS 101-68-8): Listed

SARA 304 Emergency release notification: Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050): Not listed.

Superfund Amendment and Reauthorization Act of 1986 (SARA)

Hazard categories: Immediate Hazard – yes. Delayed Hazard – Yes. Fire Hazard – No. Pressure Hazard – No. Reactivity Hazard – No.

SARA 302 Extremely hazardous substance: Not listed.

SARA 311/312 Hazardous chemical: No

SARA 313 (TRI reporting):

Chemical name	CAS number	% by wt.
4,4'-Methylenediphenyl Diisocyanate	101-68-8	61 - 66

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List: 4,4'-Methylenediphenyl Diisocyanate (CAS 101-68-8)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130): Not regulated.

Safe Drinking Water Act (SDWA): Not regulated.

US state regulations

US California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100): Not listed.

US California Candidate Chemicals List. Safer Consumer Products Regulation (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

4,4'-Methylenediphenyl Diisocyanate (CAS 101-68-8)

4,4'-Methylenediphenyl Diisocyanate (CAS 26447-40-5)

US Massachusetts RTK – Substance List

4,4'-Methylenediphenyl Diisocyanate (CAS 101-68-8)

US New Jersey Worker and Community Right-to-Know Act

4,4'-Methylenediphenyl Diisocyanate (CAS 101-68-8)

4,4'-Methylenediphenyl Diisocyanate (CAS 26447-40-5)

US Pennsylvania Worker and Community Right-to-Know Law

4,4'-Methylenediphenyl Diisocyanate (CAS 101-68-8)

US Rhode Island RTK

4,4'-Methylenediphenyl Diisocyanate (CAS 101-68-8)

California Proposition 65: California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65). This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country or region	Inventory Name	On Inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
US & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*"Yes" indicates that all components of this product comply with the inventory requirements by the governing countries. "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country.

16. OTHER INFORMATION

This information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designated only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.