G.J. CHEMICAL COMPANY, INC. SAFETY DATA SHEET

1. PRODUCT IDENTIFIER

1.1 PRODUCT NAME: FAST THINNER

PRODUCT NUMBER(s): 162000

TRADE NAMES/SYNONYMS: Automotive Lacquer Thinner Blend

1.2 RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST
RECOMMENDED USE: Solvent/Thinner for use with Automotive Lacquers
USES ADVISED AGAINST: No information available

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Company: G.J. CHEMICAL CO., INC.
Address: 40 VERONICA AVENUE
SOMERSET, NJ 08873
Telephone: 1-973-589-1450
Fax: 1-973-589-3072

1.4 Emergency Telephone Number
Emergency Phone: 1-800-424-9300 (CHEMTREC)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29CFR 1910 (OSHA HCS)
Flammable liquids (Category 2), H225
Skin irritation (Category 3), H316
Eye Irritation (Category 2A), H319
Acute toxicity, Oral (Category 4), H302
Acute toxicity, Inhalation (Category 4), H332
Acute toxicity, Dermal (Category 4), H312
Reproductive toxicity (Category 2), H361
Specific target organ toxicity - repeated exposure (Category 3), H373
Specific target organ toxicity - single exposure (Category 3) - Central nervous system, H336
Aspiration hazard (Category 1), H304
Acute aquatic toxicity (Category 2), H401

2.2 GHS Label elements, including precautionary statements

Pictogram

GHS02 GHS08 GHS07

Signal word: DANGER

<u>Hazard statement(s)</u>
H225 Highly flammable liquid and vapor.
H302 + H312 +H332 Harmful if swallowed or in contact with skin or if inhaled.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H316 Causes mild skin irritation.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
H401 Toxic to aquatic life.

<u>Precautionary statements</u>
<u>Prevention:</u>
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves/ eye protection/ face protection.
P281 Use personal protective equipment as required.
Response:
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.

P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P331 Do NOT induce vomiting.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists. Get medical advice/attention.
P362 Take off contaminated clothing and wash before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
Storage:
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. INGREDIENTS

3.1 SUBSTANCE: Not applicable
3.2 MIXTURE:

COMPONENT	CAS NO.	% BY WT.	CLASSIFICATION
TOLUENE	108-88-3 EC-No. 203-625-9 Index-No.601-021-00-3 Reg.-No.01-2119471310-51-XXXX	70-75	Flammable liquids (Category 2), H225 Skin irritation (Category 2), H315 Reproductive toxicity (Category 2), H361 STOT-RE (Category 2), H373 STOT-SE (Category 3) - Central nervous system, H336 Aspiration hazard (Category 1), H304 Acute aquatic toxicity (Category 2), H401
ACETONE	67-74-1 EC-No.200-662-2 Index-No.606-001-00-8 Reg.-No. 01-2119471330-49-XXXX	18-21	Flammable liquids (Category 2), H225 Skin irritation (Category 3), H316 Eye irritation (Category 2A), H319 STOT-SE (Category 3), H336
2-PROPANOL	67-63-0 EC-No.200-661-7	4-6	Flammable liquids (Category 2), H225 Eye irritation (Category 2A), H319

Index-No.603-117-00-0 Reg.-No.01-2119457558-25-XXXX			STOT-SE (Category 3), Central nervous system, H336
2-BUTOXYETHANOL EC-No. 203-905-0 Index-No. 603-014-00-0 Reg.-No. 01-2119475108-36-XXXX	111-76-2	1-2	Flammable liquids (Category 4), H227 Acute toxicity, Oral (Category 4), H302 Acute toxicity, Inhalation (Category 4), H332 Acute toxicity, Dermal (Category 4), H332 Skin irritation (Category 2), H312 Eye irritation (Category 2A), H319

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4. FIRST-AID MEASURES

4.1 DESCRIPTION OF FIRST AID MEASURES:

INHALATION: FAST THINNER

*****FIRST AID-* Remove from exposure area to fresh air immediately. If breathing has stopped, perform artificial respiration. Keep person warm and at rest. Treat symptomatically and supportively. Get medical attention immediately.**

SKIN CONTACT: FAST THINNER

*****FIRST AID-* Remove contaminated clothing and shoes immediately. Wash affected area with soap or mild detergent and large amounts of water until no evidence of chemical remains (approximately 15-20 minutes). Get medical attention immediately.**

EYE CONTACT: FAST THINNER

*****FIRST AID-* Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains (approximately 15-20 minutes). Remove contact lenses, if worn, after initial flushing. Get medical attention immediately.**

INGESTION: FAST THINNER

*****FIRST AID-* Extreme care must be used to prevent aspiration. Gastric lavage with a cuffed endotracheal tube in place to prevent further aspiration should be done within 15 minutes by medical personnel. In the absence of depression or convulsions or impaired gag reflex, emesis can also be induced using syrup of ipecac without increasing the hazard of aspiration (Dreisbach, Handbook of Poisoning, 12th ed.). Treat symptomatically and supportively. Gastric lavage should be performed by qualified medical personnel. Get medical attention immediately.**

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED:
Inhalation: Fatigue, confusion, headache, dizziness, drowsiness, peculiar skin sensations (pins and needles) or numbness may be produced. Very high concentrations via inhalation can cause unconsciousness and death. Aftereffects of acute inhalation include muscular fatigue, insomnia, and possible hepatic and renal damage which is reversible.
Skin: Causes irritation and drying. Abortion through the skin is possible but it is generally too slow to produce signs of acute systemic toxicity.
Eye: Causes irritation and corneal burns, if not promptly removed.
Ingestion: May cause a burning sensation in the epigastrium and abdominal spasms.
Systemic effects: May occur as described in acute inhalation. Aspiration of the liquid into the lungs may cause coughing, gagging, distress, acute hemorrhagic pneumonitis, and rapidly developing pulmonary edema.
Chronic Effects:
Inhalation: Prolonged or repeated exposure via inhalation may cause mucous membrane irritation, vomiting, insomnia, nosebleeds, chest pains, and various motor difficulties. Bone marrow hypoplasia and leukopenia have been reported. Neuropsychiatric effects are varied. Muscle weakness leading to limb paralysis and abdominal pain is noted. Chromosome changes were observed in some workers.
Skin: Prolonged or repeated exposure to the skin may cause de-fatting and dry fissure dermatitis.
Eye: Repeated or prolonged contact with the eye may cause conjunctivitis.
Ingestion: Repeated ingestion may cause damage to kidney, liver, central nervous system, and lead to cancer.

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED:
Specific details on antidote: No recommendation given.

5. FIRE FIGHTING PROCEDURES

FLASH POINT: -17°C (1.4°F) (CC) **LOWER EXPLOSIVE LIMIT: 1.6% (V)**
AUTOIGNITION TEMP.: N.D. **UPPER EXPLOSIVE LIMIT: 10% (V)**
UNIFORM FIRE CODE: Flammable Liquid Class 1B

5.1 SUITABLE EXTINGUISHING MEDIA:

DRY CHEMICAL, CARBON DIOXIDE, WATER SPRAY OR REGULAR FOAM.
FOR LARGER FIRES, USE WATER SPRAY, FOG OR REGULAR FOAM.

Unsuitable extinguishing media: Do not use waterjet.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE: FIRE AND EXPLOSION HAZARD: DANGEROUS FIRE HAZARD WHEN EXPOSED TO HEAT OR FLAME. VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL A CONSIDERABLE DISTANCE TO A SOURCE OF IGNITION AND FLASH BACK. VAPOR-AIR MIXTURES ARE EXPLOSIVE. DUE TO LOW ELECTROCONDUCTIVITY OF THE SUBSTANCE, FLOW OR AGITATION MAY GENERATE ELECTROSTATIC CHARGES RESULTING IN SPARKS WITH POSSIBLE IGNITION. Keep containers tightly closed. Extremely Flammable liquid; isolate from all sources of ignition. Closed containers may explode when exposed to extreme heat. Liquid floats on water.

CONDITIONS OF FLAMMABILITY: Flammable in the presence of a source of ignition when the temperature is above the flash point.

HAZARDOUS COMBUSTION PRODUCTS: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, carbon oxides and other unidentified organic compounds evolve when this material undergoes combustion.

5.3 ADVICE FOR FIREFIGHTERS: Shut off source. Keep unnecessary people away; isolate hazard area and deny entry. Avoid breathing vapors, stay upwind Do not spray pool fires directly. A solid stream of water or foam directed into hot burning liquid can cause frothing. Move container from fire area if you can do it without risk. Apply cooling water to sides of containers that are exposed to flames until well after fire is out. For massive fire in cargo area, use unmanned hose holder or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. Water fog may be used to cool closed containers to prevent pressure build up and possible auto ignition or explosion when exposed to extreme heat. Cool containers with water-fog from as far a distance as possible. Wear NIOSH/MSHA approved self-contained breathing apparatus (SCBA) for confined spaces. Use full fire-fighting protective clothing. If protective equipment is not available or not used, fight fire from a protected location or safe distance. Avoid breathing toxic vapors, keep upwind.
Water may be ineffective.

⑥. ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES: Extremely Flammable; Eliminate ignition sources in the vicinity of the spill or released vapor. Immediately evacuate all nonessential people. Verify that responders are properly trained and wearing appropriate respiratory equipment and fire resistant protective clothing during cleanup operations.

6.2 ENVIRONMENTAL PRECAUTIONS:
Keep out of water sources, drains and sewers. Do not flush into surface water or sanitary sewer system

6.3 METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP:
Methods for cleanup and containment:
Use explosion proof equipment. Shut off valves, contain spill, keep out of water sources and sewers, for smaller spills add non-flammable absorbent in spill area. For large spills use foam on spill to minimize vapors clean up by vacuuming then using non-flammable absorbent.
Methods for disposal:
Place all saturated absorbent, using non-sparking tools, in an approved container for disposal. Minimize breathing vapors and skin contact, ventilate confined areas, open all windows and doors, assure conformity with applicable government regulations.
SOIL SPILL:
Dig holding area such as lagoon, pond or pit for containment. Dike flow of spilled material using soil or sandbags or foamed barriers such as polyurethane or concrete. Use cement powder or fly ash to absorb liquid mass. Immobilize spill with universal gelling agent. Reduce vapor and fire hazard with appropriate foam.
AIR SPILL:
Knock down vapors with water spray. Keep upwind.
WATER SPILL:
If material dissolved, apply activated carbon. Use dredges or lifts to extract masses of pollution and precipitates. Apply universal gelling agent to immobilize trapped spill and increase efficiency of removal. Limit spill motion and dispersion with natural barriers or oil spill control booms. Use soaps, detergents, alcohols or other surface active agent to thicken spilled material. Use suction hoses to remove trapped spill material.
OCCUPATIONAL SPILL: Shut off ignition sources. Stop leak if you can do it without risk. Use water spray to reduce vapors. For small spills, take up with sand or other absorbent material and place into containers for later disposal. For larger spills, dike far ahead of spill for later disposal. No smoking, flames or flares in hazard area. Keep unnecessary people away; isolate hazard area and restrict entry.

REPORTABLE QUANTITY (RQ):
Toluene-1000 lbs.; Acetone- 5000lbs: Blend -1400lbs. (calculated)
The Superfund Amendments and Reauthorization Act (SARA) Section 304 requires that a release equal to or greater than the reportable quantity for this substance be immediately reported to the local emergency planning committee and the state Emergency Response Commission (40 CFR 355.40). If the release of this substance is reportable under CERCLA Section 103, the National Response Center must be notified immediately at (800) 424-8802 or (202) 426-2675 in the metropolitan Washington, D.C. area (40 CFR 302.6).

6.4 REFERENCE TO OTHER SECTIONS: See Sections 8 and 13.

7. HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING: This material presents a fire hazard. Liquid quickly evaporates and forms vapor (fumes), which can catch fire and burn with explosive violence. Invisible vapor spreads easily and can be set on fire by many sources, such as pilot lights, welding equipment, and electrical motors and switches. Vapor is heavier than air and can travel considerable distance to a source of ignition and flash back. Avoid breathing vapors in top of shipping container. Use with adequate ventilation. Avoid contact with eyes, skin and clothing. Do not breathe vapor. Do not take internally. Avoid work practices that may release volatile components into the atmosphere. Avoid contaminating soil or releasing material into sewage and drainage systems. Use non-sparking tools to open or close containers. Keep away from heat, sparks and flame. Keep container tightly closed and upright to prevent leakage. Use only with adequate ventilation. Wash thoroughly after handling.

STATIC HAZARD: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not be sufficient. For more information refer to OSHA Standard 29CFR 1910.106 "Flammable and Combustible Liquids" and National Fire Protection Association (NFPA 77) "Recommended Practice on Static Electricity".

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES: Follow maximum allowed pile heights specified in the BOCA codes or the NFPA manual. Local fire authorities should be notified for storage of this material in any quantity. Local permits are required for storage in warehouse quantities. Recommended storage temperature: 15 - 25°C. Store large quantities only in cool, dry areas in buildings designed to comply with OSHA 1910.106.
Keep containers tight and upright to prevent leakage. Do not contact with oxidizing materials. Keep containers closed when not in use. Store away from incompatible substances. Storage class (TRGS 510): Flammable liquids

CONTAINER WARNINGS: Containers should be Bonded and Grounded when pouring. Avoid free fall of liquid in excess of a few inches. Empty containers release residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, or expose such containers to heat, sparks, static electricity or other sources of ignition. Do not attempt to clean. "Empty" drums should be completely drained, properly bunged and promptly returned to a drum re-conditioner. Containers of this material may be hazardous when empty. Since emptied containers retain product residues, assume emptied containers to have the same hazard qualities as full containers.

7.3 SPECIFIC END USES: Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROL (PERSONAL PROTECTION)

8.1 CONTROL PARAMETERS:

COMPONENT	CAS NO.	% BY WT.	EXPOSURE LIMITS
TOLUENE	108-88-3 EC-No. 203-625-9 Index-No.601-021-00-3 Reg.-No.01-2119471310-51-XXXX	70-75	20PPM TWA (ACGIH) 150PPM STEL (ACGIH) 100PPM TWA (NIOSH) 150PPM STEL (NIOSH) 100PPM TWA (OSHA) 150PPM STEL (OSHA)
ACETONE	67-74-1 EC-No.200-662-2 Index-No.606-001-00-8 Reg.-No. 01-2119471330-49-XXXX	18-21	500PPM TWA (ACGIH) 750PPM STEL (ACGIH) 750PPM TWA (OSHA) 1000PPM STEL (OSHA) 250PPM TWA (NIOSH)
2-PROPANOL	67-63-0 EC-No.200-661-7 Index-No.603-117-00-0 Reg.-No.01-2119457558-25-XXXX	4-6	200ppm TWA (ACGIH) 400ppm STEL (ACGIH) 400ppm TWA (OSHA) 500ppm STEL (OSHA) 400ppm TWA (NIOSH) 500ppm STEL (NIOSH)
2-BUTOXYETHANOL	111-76-2 EC-No. 203-905-0 Index-No. 603-014-00-0 Reg.-No. 01-2119475108-36-XXXX	1-2	20ppm TWA (ACGIH) 5ppm TWA (NIOSH) 25ppm TWA (OSHA)

Key: (PEL) = Permissible Exposure Limit OSHA
(TLV) = Threshold Limit Value OSHA & ACGIH
(STEL) = Short Term Exposure Limit ACGIH
(WEEL) = USA. Workplace Environmental Exposure Levels
(TWA) = Time Weighted Average
CAS = Chemical Abstracts Registry Number
IDLH = Immediate Danger to Life and Health
N.E. =None Established

8.2 EXPOSURE CONTROLS

EXPOSURE GUIDELINES: Consider the potential hazards of this material (Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment

listed below is recommended.

<u>ENGINEERING CONTROLS:</u> Provide general dilution or local exhaust ventilation in volume and pattern to keep concentrations within permitted exposure limits. All areas should be ventilated in accordance with OSHA Regulation 29 CFR Part 1910. Explosion proof motors should be used in mechanical ventilation.

<u>RESPIRATORY PROTECTION:</u> The following respirators and maximum use concentrations are recommendations by the U.S. Department of Health and Human Services, NIOSH Pocket Guide to Chemical Hazards; NIOSH criteria documents or by the U.S. Department of Labor, 29 CFR 1910 Subpart Z.
The specific respirator selected must be based on contamination levels found in the work place, must not exceed the working limits of the respirator and be jointly approved by the National Institute for Occupational Safety and Health and the Mine Safety and Health Administration (NIOSH-MSHA).

TOLUENE:
1000 PPM- Any chemical cartridge respirator with organic vapor cartridge(s).
Any supplied-air respirator.
Any powered air-purifying respirator with organic vapor cartridge(s).
Any self-contained breathing apparatus.
2000 PPM- Any supplied-air respirator operated in a continuous flow mode.
Any self-contained breathing apparatus with a full face-piece.
Any supplied-air respirator with a full face-piece.
Any air-purifying full face-piece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister.
ESCAPE- Any air-purifying, full face-piece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister.
Any appropriate escape-type, self-contained breathing apparatus.

<u>BODY CLOTHING</u>: Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged contact with this substance. Use chemical resistant apron or other impervious clothing. Remove and wash contaminated clothing before reuse.

<u>SKIN PROTECTION</u>: Employee must wear appropriate protective gloves to prevent contact with this substance.
Full contact Material: Fluorinated rubber
Minimum layer thickness: 0.7 mm
Break through time: 480 min
Splash contact Material: Fluorinated rubber
Minimum layer thickness: 0.7 mm
Break through time: 480 min
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

HYGIENE: Use good personal hygiene practices, wash hands before eating, drinking, smoking or using toilet facilities.

EYE/FACE PROTECTION: Use safety eyewear with splash-guards or face shield. Contact lenses should not be worn.
Emergency shower and eyewash should be easily accessible to the work area.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES:

Fast Thinner Blend

APPEARANCE:	Clear liquid
COLOR:	Colorless
ODOR:	Pungent ketone, aromatic like odor
ODOR THRESHOLD:	10-15 PPM
pH	No data available
MOLECULAR WEIGHT:	No data available
MELTING POINT:	No data available
BOILING POINT:	133-340°F
SPECIFIC GRAVITY:	0.841@ 20°C
VAPOR PRESSURE:	80mm Hg @ 20°C
VAPOR DENSITY:	2.78
WATER SOLUBILITY:	Moderate
PARTITION COEFFICIENT N-OCTANOL/WATER:	No data available
FLASH POINT:	-17°C (1.4°F) (CC)
EVAPORATION RATE: (butyl acetate-1):	3.1
UPPER FLAMMABILITY LIMIT:	10%
LOWER FLAMMABILITY LIMIT:	1.6%
AUTO IGNITION TEMPERATURE:	N.D.
DECOMPOSITION TEMPERATURE:	No data available
VISCOSITY:	No data available
EXPLOSIVE PROPERTIES:	No data available
OXIDING PROPERTIES:	No data available

9.2 OTHER INFORMATION:

SOLVENT SOLUBILITY: Soluble in alcohol, ether, benzene, chloroform, ligroin, glacial acetic acid, carbon disulfide, acetone.

10. STABILITY AND REACTIVITY INFORMATION

10.1 **REACTIVITY**: No data available.

10.2 CHEMICAL STABILITY: Stable under normal temperatures and pressures.

10.3 POSSIBILITY OF HAZARDOUS REACTIONS: Vapors may form explosive mixture with air.

POLYMERIZATION: Hazardous polymerization has not been reported to occur under normal temperatures and pressures.

10.4 CONDITIONS TO AVOID: --> Heat, Sparks, Pilot Lights, Static Electricity, and Open Flame. Extremes of temperature and direct sunlight.

10.5 INCOMPATIBILITIES: TOLUENE

ALLYL CHLORIDE + DICHLOROETHYL ALUMINUM OR ETHYLALUMINUM SESQUICHLORIDE: Possible explosion.
BROMINE TRIFLUORIDE (SOLID): Violent reaction.
1,3-DICHLORO-5,5-DIMETHYL-2,4-IMIDAZOLIDIDIONE: Explosive reaction.
DINITROGEN TETROFLUORIDE: Forms explosive mixture.
NITRIC ACID: Vigorous reaction.
NITRIC ACID + SULFURIC ACID: Violent decomposition possible.
NITROGEN TETROXIDE: Explosive reaction.
OXIDIZERS (STRONG): Fire and explosion hazard.
PLASTICS, RUBBER, AND COATINGS: May be attacked.
SILVER PERCHLORATE: Forms shock-sensitive mixture.
SULFUR DICHLORIDE: Violent reaction, greatly accelerated in the presence of iron or ferric chloride.
SULFURIC ACID: Exothermic reaction.
TETRANITROMETHANE: Forms explosive mixture.
URANIUM HEXAFLUORIDE: Violent reaction.

10.5 INCOMPATIBILITIES ACETONE:

ACIDS: Incompatible
AMINES (ALIPHATIC): Incompatible
BROMINE: Violent reaction with excess amounts of bromine
BROMINE TRIFLUORIDE: Explosion on contact
BROMOFORM: Violent reaction in presence of bases (e.g. potassium hydroxide)
CHLOROFORM: Violent reaction in presence of a base
CHROMIUM TRIOXIDE: Ignition on contact at ambient temperature
CHROMYL CHLORIDE: Incandescent reaction
DIOXYGEN BIFLUORIDE + SOLID CARBON DIOXIDE: Explosion at -78 C
HEXACHLOROMELANINE: Possible explosion
HYDROGEN PEROXIDE: Explosion
NITRIC ACID: Ignition
NITRIC + ACETIC ACID MIXTURE: Possible explosion
NITRIC + SULFURIC ACID MIXTURE: Violent oxidation

NITROSYL CHLORIDE: Explosive reaction
NITROSYL PERCHLORATE: Ignition and explosion
NITRYL PERCHLORATE: Ignition and explosion hazard
OXIDIZERS (STRONG): Fire and explosion hazard
PERMONOSULFURIC ACID: Explosion
PLASTICS: Incompatible
PLATINUM + NITROSYL CHLORIDE: Possible explosion
POTASSIUM-TERT-BUTOXIDE: Ignition
RAYON: Incompatible
SODIUM HYPOBROMITE: Explosion
SODIUM HYPOIODITE: Possible explosion
SULFUR DICHLORIDE: Violent reaction
SULFURIC ACID AND POTASSIUM BICHROMATE: Ignition
THIODIGLYCOL + HYDROGEN PEROXIDE: Possible explosion
THIOTRIAZYL PERCHLORATE: Possible explosion
1,1,1-TRICHLOROETHANE: Exothermic condensation by a basic catalyst
TRICHLOROMELANINE: Possible explosion

10.5 <u>INCOMPATIBILITIES 2-PROPANOL</u>
ACIDS: Incompatible.
ACIDS ANHYDRIDES: Incompatible.
ALUMINUM: Dissolution is exothermic.
BARIUM PERCHLORATE: Formation of explosive compound.
2-BUTANONE (METHYL ETHYL KETONE): Accelerates the peroxidation of the alcohol.
CHROMIUM TRIOXIDE (GRANULAR): Ignition.
COATINGS: May be attacked.
DIOXYGENYL TETRAFLUOROBORATE: Ignition at ambient temperatures.
HALOGENS: Incompatible.
HYDROGEN + PALLADIUM (PARTICLES): Ignition on exposure to air.
HYDROGEN PEROXIDE: Formation of explosive compound.
KETONES: Markedly increases the possibility of peroxidation.
NITROFORM (TRINITROMETHANE): Dissolves liberating heat and possibly exploding.
OLEUM: Temperature and pressure increase in closed container.
OXIDIZERS (STRONG): Fire and explosion hazard.
OXYGEN (GAS): Autoxidation, on exposure to light, results in formation of ketones and potentially explosive hydrogen peroxide.
PHOSGENE: In the presence of iron salts, may explode.
PLASTICS: May be attacked.
POTASSIUM TERT-BUTOXIDE: Ignition.
RUBBER: May be attacked.
SODIUM DICHROMATE + SULFURIC ACID: Exothermic reaction with possible incandescence.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS --> Thermal decomposition products may include: Fumes, Smoke, Carbon Monoxide, Aldehydes and other decomposition products where combustion is not complete.

11. TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS:

Routes of Entry: Inhalation--> x Skin--> x Ingestion--> x Eye--> x

ACUTE HEALTH EFFECTS:

Effects of overexposure:

Inhalation: Fatigue, confusion, headache, dizziness, drowsiness, peculiar skin sensations (pins and needles) or numbness may be produced. Very high concentrations via inhalation can cause unconsciousness and death. Aftereffects of acute inhalation include muscular fatigue, insomnia, and possible hepatic and renal damage which is reversible.

Skin: Causes irritation and drying. Abortion through the skin is possible but it is generally too slow to produce signs of acute systemic toxicity.

Eye: Causes irritation and corneal burns, if not promptly removed.

Ingestion: May cause a burning sensation in the epigastrium and abdominal spasms. Systemic effects may occur as described in acute inhalation. Aspiration of the liquid into the lungs may cause coughing, gagging, distress, acute hemorrhagic pneumonitis, and rapidly developing pulmonary edema.

Chronic Effects:
Inhalation: Prolonged or repeated exposure via inhalation may cause mucous membrane irritation, vomiting, insomnia, nosebleeds, chest pains, and various motor difficulties. Bone marrow hypoplasia and leukopenia have been reported. Neuropsychiatric effects are varied. Muscle weakness leading to limb paralysis and abdominal pain is noted. Chromosome changes were observed in some workers.

Skin: Prolonged or repeated exposure to the skin may cause de-fatting and dry fissure dermatitis.

Eye: Repeated or prolonged contact with the eye may cause conjunctivitis.

Ingestion: Repeated ingestion may cause damage to kidney, liver, central nervous system, and lead to cancer.

ACUTE TOXICITY:
The effects of overexposure shown in Section II are based on acute toxicity profiles. Typical values are:

Ingredient	Oral LD50 (Rat)	Skin LD50 (Rabbit)	Inhalation LC50
Toluene	5580mg/kg	12.12g/kg	28,800mg/m3/4h
Acetone	5800mg/kg	7426mg/kg (Gunea Pig)	50100ppm/6hr
2-Propanol	5045mg/kg	12800mg/kg	16000ppm/8hr
2-Butoxyethanol	470mg/kg	220mg/kg	450ppm/4hr

<u>TOLUENE</u>:
SKIN CORROSION/IRRITATION: Skin - Rabbit Result: Skin irritation - 24 h
SERIOUS EYE DAMAGE/EYE IRRITATION: Eyes - Rabbit Result: No eye irritation (OECD Test Guideline 405)
RESPIRATORY OR SKIN SENSITIZATION: No data available.
MUTAGENIC EFFECTS: No data available
CARCINOGENICITY:
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Specific target organ toxicity (STOT-SE) - single exposure (Global Harmonization System): no data available
Specific target organ toxicity (STOT-RE) - repeated exposure (Global Harmonization System): no data available
11.2 ADDITIONAL DATA:
LOCAL EFFECTS: Irritant-inhalation, skin, eye.
ACUTE TOXICITY LEVEL: Moderately toxic by ingestion; slightly toxic by inhalation and dermal absorption.
TARGET EFFECTS: Central nervous system depressant; neurotoxin, poisoning may also affect the heart, liver, kidneys, and blood.

<u>ACETONE:</u>
SKIN CORROSION/IRRITATION: Skin - Rabbit Result: Mild skin irritation - 24 h
SERIOUS EYE DAMAGE/EYE IRRITATION: Eyes - Rabbit Result: Eye irritation 24 h

RESPIRATORY OR SKIN SENSITIZATION: Guinea pig Result: Does not cause skin sensitization.
MUTAGENIC EFFECTS: No information available.
CARCINOGENICITY:
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Specific target organ toxicity (STOT-SE) - single exposure (Globally Harmonized System): May cause drowsiness or dizziness.
Specific target organ toxicity (STOT-RE) - repeated exposure (Globally Harmonized System): no data available

11.2 ADDITIONAL DATA:
LOCAL EFFECTS: Irritant-inhalation, skin, eye.
ACUTE TOXICITY LEVEL: Slightly toxic by inhalation, dermal absorption, ingestion.
TARGET EFFECTS: Central nervous system depressant.
AT INCREASED RISK FORM EXPOSURE: Persons with chronic respiratory or skin diseases.

<u>ISOPROPYL ALCOHOL</u>
SKIN CORROSION/IRRITATION: Skin - Rabbit Result: Mild skin irritation - 24 h
SERIOUS EYE DAMAGE/EYE IRRITATION: Eyes - Rabbit Result: Eye irritation 24 h
RESPIRATORY OR SKIN SENSITIZATION: No data available.
MUTAGENIC EFFECTS: No data available.
<u>CARCINOGENICITY:</u>
(IARC Group-3). Strong acid manufacturing process: human sufficient evidence (IARC Group-1). Workers involved in the manufacture of isopropyl alcohol by the strong-acid process, involving the formation of isopropyl oils, showed an increase in para-nasal and laryngeal cancer.
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

REPRODUCTIVE STATUS: Damage to fetus possible Suspected human reproductive toxicant
SPECIFIC TARGET ORGAN TOXICITY (STOT-SE) - single exposure (Globally Harmonized System): no data available

SPECIFIC TARGET ORGAN TOXICITY (STOT-RE)- repeated exposure (Globally Harmonized System): no data available

11.2 ADDITIONAL DATA: Stimulants such as epinephrine may induce ventricular fibrillation. Alcohol may enhance the toxic effects. The metabolism of other solvents may be inhibited resulting in a potentiation of toxic effects of those chemicals. Uptake is directly proportional to the amount of body fat. Blood levels may be cumulative when exposure is extended

2-BUTOXYETHANOL
SKIN CORROSION/IRRITATION: Skin - Rabbit Result: Skin irritation - 20 h
SERIOUS EYE DAMAGE/EYE IRRITATION: Eyes - Rabbit Result: Eye irritation - 24 h (OECD Test Guideline 405)
RESPIRATORY OR SKIN SENSITIZATION: Maximization Test - Guinea pig Result: Does not cause skin sensitization. (OECD Test Guideline 406)
MUTAGENIC EFFECTS: No data available
CARCINOGEN STATUS:
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

Specific target organ toxicity (STOT-SE) - single exposure (Globally Harmonized System): no data available
Specific target organ toxicity (STOT-RE) - repeated exposure (Globally Harmonized System): no data available

ASPIRATION HAZARD: No data available
11.2 ADDITIONAL DATA: Human exposure above 200 ppm can be expected to cause narcosis, damage to the kidney and liver and present an abnormal blood picture showing erythropenia, reticulocytosis, granulocytosis, leukocytosis, and would be likely to cause fragility of erythrocytes and hematuria. Swallowing of 2-butoxyethanol results in a sour taste that turns to a burning sensation and is followed by numbness of the tongue which indicates paralysis of the sensory nerve endings., Central nervous system depression, Headache, narcosis

12. ECOLOGICAL INFORMATION

DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS
FOULING TO SHORELINE
May be dangerous if it enters water intakes.
Notify health and wildlife officials.
Notify operators of nearby water intakes.

TOLUENE

12.1 AQUATIC TOXICITY (Acute):

Toxicity to Fish:

LC50 - Oncorhynchus mykiss (rainbow trout) - 7.63 mg/l - 96 h

NOEC - Pimephales promelas (fathead minnow) - 5.44 mg/l - 7 d

Toxicity to daphnia and other aquatic invertebrates

EC50 - Daphnia magna (Water flea) - 8.00 mg/l - 24 h

Immobilization EC50 - Daphnia magna (Water flea) - 6 mg/l - 48 h

Toxicity to algae EC50 - Chlorella vulgaris (Fresh water algae) - 245.00 mg/l - 24 h

EC50 - Pseudokirchneriella subcapitata (green algae) - 10.00 mg/l - 24 h

12.2 PERSISTANCE AND DEGRADABILITY: Readily Biodegradable

Biological Oxygen Demand (BOD): 0% 5 days, 38% (theoretical.) 8 days

12.3 BIOACCUMULATIVE POTENTIAL:

Bioaccumulation Leuciscus idus (Golden orfe) - 3 d - 0.05 mg/l

Bioconcentration factor (BCF): 90

12.4 MOBILITY IN SOIL: No data available

12.5 RESULTS OF PBT AND vPvT :

PBT assessment results: This substance is not classified as PBT or vPvB.

12.6 OTHER ADVERSE EFFECTS: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Toxic to aquatic life.

ACETONE

12.1 AQUATIC TOXICITY (Acute):

Toxicity to fish:

LC50 - Oncorhynchus mykiss (rainbow trout) - 5,540.00 mg/l - 96 h

LC50 - Leuciscus idus (Golden Orfe) – 11300 mg/l - 48 h

LC50 – Gambusia affinis (Moskquito Fish) – 13000 mg/l – 48 h

LC50 – Pimphales promelas (Fathead Minnow) – 6210 mg/l – 96 h

Toxicity to aquatic invertebrates:

EC50 - Daphnia magna (Water flea) - 8800 mg/l - 48 h

Toxicity to Algae:

EC50 – Algae - 3400mg/l – 48 h

Toxicity to Microorganisms:

EC50 Bacteria – 1700 mg/l – 16 h

12.2 PERSISTANCE AND DEGRADABILITY:

Result 91%- Readily biodegradable; (OECD Test Guideline 301B)

Biological Oxygen Demand:	**1850 mg/g, 5 h**
Oxygen Demand (Theoretical):	**2200 mg/g**
Carbon Dioxide (Theoretical):	**2273 mg/mg**

Process	**Degradation rate**	**Time**
Biotic/abiotic	**91%**	**28 days**
Carbon dioxide generation	**90.9%**	**28 days**

12.3 BIOACCUMULATIVE POTENTIAL:
log Pow -.0.24
Will not bio-accumulate.
Bio-centration Factor: 0.69, Method of testing BCF.
12.4 MOBILITY IN SOIL:
SURFACE TENSION: 26.2 mN/m 0°C
This product is water soluble and may spread in water systems.
12.5 RESULTS OF PBT AND vPvT :
PBT assessment results: This substance is not classified as PBT or vPvB.
12.6 OTHER ADVERSE EFFECTS: Slightly toxic to aquatic life.

2-PROPANOL
12.1 AQUATIC TOXICITY (Acute):
Toxicity to fish:
LC50 - Pimephales promelas (fathead minnow) - 9,640.00 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates:
EC50 - Daphnia magna (Water flea) - 5,102.00 mg/l - 24 h
Immobilization EC50 - Daphnia magna (Water flea) - 6,851 mg/l - 24 h
Toxicity to algae:
EC50 - Desmodesmus subspicatus (green algae) - > 2,000.00 mg/l - 72 h
EC50 - Algae - > 1,000.00 mg/l - 24 h
12.2 PERSISTANCE AND DEGRADABILITY: Data not available.
12.3 BIOACCUMULATIVE POTENTIAL:
log Pow <=4 No bioaccumulation is expected
12.4 MOBILITY IN SOIL: No data available.
12.5 RESULTS OF PBT AND vPvT :
PBT assessment results: This substance is not classified as PBT or vPvB.
12.6 OTHER ADVERSE EFFECTS: No data available.

2-BUTOXYETHANOL
12.1 AQUATIC TOXICITY (Acute):
Toxicity to fish:
LC50 - Oncorhynchus mykiss (rainbow trout) - 1,474 mg/l - 96 h, Static Test (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates
EC50 - Daphnia magna (Water flea) - 1,550 mg/l - 48 h, Immobilization Test (OECD Test Guideline 202)
Toxicity to algae:
EC50 - Pseudokirchneriella subcapitata (green algae) - 1,840 mg/l - 72 h (OECD Test Guideline 201)
12.2 PERSISTANCE AND DEGRADABILITY: Aerobic - Exposure time 28 d Result: 90.4 % - Readily biodegradable. (OECD Test Guideline 301B)
12.3 BIOACCUMULATIVE POTENTIAL: This material is highly soluble in water and should not bio-accumulate in aquatic or terrestrial organisms. The measured octanol/water(log Pow) partition coefficient 0.83

12.4 MOBILITY IN SOIL: No data available.
12.5 RESULTS OF PBT AND vPvB :
PBT assessment results: This substance is not classified as PBT or vPvB.
12.6 OTHER ADVERSE EFFECTS: No data available.

13. DISPOSAL GUIDELINES

13.1 WASTE TREATMENT METHODS:
Hazard characteristic and regulatory waste stream classification can change with product use. Accordingly it is the responsibility of the user to determine the proper storage, transportation, treatment and or disposal methodologies for spent materials and residues at time of disposition. Dispose in accordance with all applicable disposal regulations. The waste material should be treated and/or disposed of at site authorized to handle hazardous chemical waste. Appropriate Federal, State and Local Regulatory Authorities should be contacted before discharge, treatment or disposal of waste material.

CONTAMINATED PACKAGING: Dispose of as unused product.

The information offered here is for the product as shipped. Use and/or alterations to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

RCRA: The unused product is a RCRA hazardous waste if discarded. The RCRA ID number is: Toluene - U220, Acetone - U002, D001
If the waste is a spent solvent, the appropriate spent solvent code should be used.

DISPOSAL MUST BE IN ACCORDANCE WITH STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE, 48 CFR 262

14. TRANSPORT INFORMATION

Land Transport (DOT)
14.1 USDOT ID Number----------> UN1993
14.2 USDOT Shipping Name----------> Flammable Liquids, n.o.s.
14.3 USDOT Hazard Classification-------> 3 (Flammable Liquid)
USDOT Label Codes----------> 3
14.4 USDOT Package Code----------> II
14.5 Marine Pollutant----------> No
14.6 Special precautions for user--------> Yes
Emergency Response Guide--------> 128
Reportable quantity----------> 1400lbs. Blend (calculated)

Sea Transport (IMDG)
14.1 ID Number----------> UN1993
14.2 Proper shipping name----------> FLAMMABLE LIQUIDS, N.O.S.
14.3 Hazard Classification----------> 3 (Flammable Liquid)
Label Codes----------> 3
14.4 Package Code----------> II
14.5 Marine Pollutant----------> No
14.6 Special precautions for user----------> Yes
EMS-Number----------> F-E, S-D

Air Transport (IATA)
14.1 ID Number----------> UN1993
14.2 Proper shipping name----------> Flammable Liquids, n.o.s.
14.3 Hazard Classification----------> 3 (Flammable Liquid)
Label Codes----------> 3
14.4 Package Code----------> II
14.5 Environmental hazard----------> No
14.6 Special precautions for user----------> Yes

15. REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE:

SARA TITLE III (Superfund Amendment and Reauthorization Act)
SECTION 302 AND 304: Extremely Hazardous Substance List (40 CFR 355) - Not Listed
SECTION 313: Toxic Chemicals Listing (40 CFR 372.65) - Listed Toluene CAS-No.108-88-3; Glycol Ether EB CAS 111-76-2
SECTION 311: Hazard Categorization (40 CFR 370) - Acute Health Hazard, Chronic Health Hazard, and Fire Hazard.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act)
SECTION 102(A) Hazardous Substances (40 CFR 302.4) - Listed
Reportable Quantity – Blend 1400lbs. (calaculated), Toluene CAS-No.108-88-3 – 1000lbs, Acetone CAS 67-74-1 - 5000lbs
SECTION 101(14) Reportable Quantity: Toluene-1,000 lbs; Acetone-5000lbs, Blend – 1400lbs. (calculated)

Massachusetts Right to Know Components
Toluene CAS-No.108-88-3
Acetone CAS 67-74-1
2-Propanol CAS 67-63-0
2-Butoxy Ethanol CAS 111-76-2

Pennsylvania Right to Know Components
Toluene CAS-No.108-88-3
Acetone CAS 67-74-1
2-Propanol CAS 67-63-0
2-Butoxy Ethanol CAS 111-76-2

New Jersey Right to Know Components
Toluene CAS-No.108-88-3
Acetone CAS 67-74-1
2-Propanol CAS 67-63-0
2-Butoxy Ethanol CAS 111-76-2

California Prop. 65 Components
WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.
Toluene CAS-No.108-88-3

TSCA (Toxic Substance Control Act)
Toluene CAS-No.108-88-3, Acetone CAS 67-74-1, 2-Propanol CAS 67-63-0 2-Butoxy Ethanol CAS 111-76-2 are listed on the TSCA Inventory.

15.2 CHEMICAL SAFETY ASSESSMENT: A chemical safety assessment has not been carried out for this substance.

16. OTHER INFORMATION:

NFPA RATINGS (SCALE 0-4):	**Health=2**	**Fire=3**	**Reactivity=0**
HMIS Ratings (Scale 0-4	**Health=2**	**Fire=3**	**Reactivity=0 PPE= G**

Hazard statement(s) from Section 2 and 3:
H225 Highly flammable liquid and vapor.
H302 + H312 +H332 Harmful if swallowed or in contact with skin or if inhaled.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H316 Causes mild skin irritation.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
H401 Toxic to aquatic life.

Date of Preparation-------> February 24, 2005
Revision Number---------> 2.7
Revision Content---------> General update all sections
Revision Date----------> January 29, 2019

Acronyms:

ACGIH - American Conference of Governmental Industrial Hygenists
AIHA - American Industrial Hygiene Association
ANSI - American Nation Standards Institute
API - American Petroleum Institute
CERCLA - Comprehensive Emergency Response, Compensation, and Liability Act
DOT - U.S. Department of Transportation
EC-50 - Effective Concentration
EPA - U.S. Environmental Protection Agency
HMIS - Hazardous Materials Information System
IARC - International Agency For Research On Cancer
LD-50 - Lethal Dose
MAK - Germany Maximum Concentration Values
MSHA - Mine Safety and Health Administration
NFPA - National Fire Protection Association
NIOSH - National Institute of Occupational Safety and Health
NOIC - Notice of Intended Change (Proposed change to ACGIH TLV)
NTP - National Toxicology Program
OPA - Oil Pollution Act of 1990
OSHA - U.S. Occupational Safety & Health Administration
PEL - Permissible Exposure Limit (OSHA)
RCRA - Resource Conservation and Recovery Act
REL - Recommended Exposure Limit (NIOSH)
SARA - Superfund Amendments and Reauthorization Act of 1986 Title III
SCBA - Self-Contained Breathing Apparatus
STEL - Short-Term Exposure Limit (generally 15 minutes)
TLV - Threshold Limit Value
TSCA - Toxic Substances Control Act
TWA - Time Weighted Average (8hr.)
WHMIS - Canadian Workplace Hazardous Materials Information System