

## 1. Identification

<b>Product identifier</b>	<b>Vector Labs Vectamount™ (60mL)</b>
<b>Other means of identification</b>	
Product code	321584
<b>Recommended use</b>	For research use only
<b>Recommended restrictions</b>	None known.
<b>Manufacturer/Importer/Supplier/Distributor information</b>	
Company name	Advanced Cell Diagnostics
Address	7707 Gateway Blvd Newark, CA 94560
Telephone	(510) 576-8800
Fax	(510) 576-8798
Email	info.acd@bio-techne.com
<b>Emergency phone number</b>	For chemical emergency, spill, leak, fire, exposure, or accident call CHEMTREC day or night: Within U.S. 1-703-741-5970 Worldwide 1-800-424-9300 Bio-Techne Tel: US: 612-379-2956 or 800-343-7475

## 2. Hazard(s) identification

### Hazards of the product as supplied

<b>Physical hazards</b>	Flammable liquids	Category 2
<b>Health hazards</b>	Skin corrosion/irritation	Category 2
	Reproductive toxicity	Category 2
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Specific target organ toxicity, repeated exposure	Category 2 (central nervous system)
	Aspiration hazard	Category 1
<b>Environmental hazards</b>	Hazardous to the aquatic environment, long-term hazard	Category 3
<b>OSHA defined hazards</b>	Not classified.	
<b>Other hazards</b>		
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.	
<b>Supplemental information</b>	55% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment.	

### Label elements



**Signal word**

Danger

**Hazard statement**

Highly flammable liquid and vapor. May be fatal if swallowed and enters airways. Causes skin irritation. May cause drowsiness or dizziness. Suspected of damaging fertility or the unborn child. May cause 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, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use non-sparking tools. Take action to prevent static discharges. Do not breathe mist/vapors. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

### Response

IF SWALLOWED: Immediately call a POISON CENTER/doctor. Do NOT induce vomiting. If on skin: Wash with plenty of water. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF exposed or concerned: Get medical advice/attention. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. In case of fire: Use appropriate media to extinguish.

### Storage

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

### Disposal

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

## 3. Composition/information on ingredients

### Mixtures

Chemical name	Common name and synonyms	CAS No./Unique ID	%
Toluene		108-88-3	50 - 60*
Other components below reportable levels			45

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

## 4. First-aid measures

### Inhalation

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.

### Skin contact

Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. 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. Get medical attention if irritation develops 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 doesn't get into the lungs.

### Most important symptoms/effects, acute and delayed

Aspiration may cause pulmonary edema and pneumonitis. May cause drowsiness or dizziness. Narcosis. Headache. Nausea, vomiting. Behavioral changes. Decrease in motor functions. Direct contact with eyes may cause temporary irritation. Skin irritation. May cause redness and pain. 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 material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

## 5. Fire-fighting measures

### Suitable extinguishing media

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO<sub>2</sub>).

### 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. 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.

### Fire fighting 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.

<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	Highly 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/vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. 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 this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. 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 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.

## 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 sources of ignition. Protect material from direct sunlight. When using do not smoke. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not breathe mist/vapors. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. 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. 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 the SDS).

## 8. Exposure controls/personal protection

### Occupational exposure limits

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

#### US. OSHA Table Z-2 Permissible Exposure Limits (PEL) (29 CFR 1910.1000)

Components	Type	Value
Toluene (CAS 108-88-3)	Ceiling	300 ppm
	TWA	200 ppm

#### US. ACGIH Threshold Limit Values (TLV)

Components	Type	Value
Toluene (CAS 108-88-3)	TWA	20 ppm

**NIOSH. Immediately Dangerous to Life or Health (IDLH) Values, as amended**

Components	Type	Value
Toluene (CAS 108-88-3)	IDLH	500 ppm

**US. NIOSH: Pocket Guide to Chemical Hazards Recommended Exposure Limits (REL)**

Components	Type	Value
Toluene (CAS 108-88-3)	STEL	560 mg/m <sup>3</sup>
		150 ppm
	TWA	375 mg/m <sup>3</sup>
		100 ppm

**Biological limit values****ACGIH Biological Exposure Indices (BEI)**

Components	Value	Determinant	Specimen	Sampling Time
Toluene (CAS 108-88-3)	0.3 mg/g	o-Cresol, with hydrolysis	Creatinine in urine	*
	0.03 mg/l	Toluene	Urine	*
	0.02 mg/l	Toluene	Blood	*

\* - For sampling details, please see the source document.

**Exposure guidelines****US - California OELs: Skin designation**

Toluene (CAS 108-88-3) Can be absorbed through the skin.

**US - Minnesota Haz Subs: Skin designation applies**

Toluene (CAS 108-88-3) Skin designation applies.

**Appropriate engineering controls**

Explosion-proof general and local exhaust ventilation. Good general ventilation should be used. 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. Provide eyewash station and safety shower.

**Individual protection measures, such as personal protective equipment**

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

**Skin protection**

**Hand protection** Wear appropriate chemical resistant gloves. Glove material: Nitrile rubber. Use gloves with breakthrough time of 480 minutes. Minimum glove thickness 0.11 mm.

**Other** Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

**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**

<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid.
<b>Color</b>	Yellow
<b>Odor</b>	Aromatic
<b>Melting point/freezing point</b>	-138.82 °F (-94.9 °C) estimated
<b>Boiling point or initial boiling point and boiling range</b>	231.08 °F (110.6 °C) estimated
<b>Flammability</b>	Not applicable.

**Upper/lower flammability or explosive limits**

**Explosive limit - lower (%)** 1.27 % estimated

<b>Explosive limit - upper (%)</b>	7 % estimated
<b>Flash point</b>	39.2 °F (4.0 °C) estimated
<b>Auto-ignition temperature</b>	896 °F (480 °C) estimated
<b>Decomposition temperature</b>	Not available.
<b>pH</b>	Not available.
<b>Kinematic viscosity</b>	Not available.
<b>Solubility</b>	
<b>Solubility (water)</b>	Not available.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Density and/or relative density</b>	
<b>Density</b>	0.86 g/cm <sup>3</sup> estimated
<b>Vapor density</b>	Not available.
<b>Particle characteristics</b>	Not available.
<b>Other information</b>	
<b>Explosive properties</b>	Not explosive.
<b>Oxidizing properties</b>	Not oxidizing.
<b>Specific gravity</b>	0.86 estimated

## 10. Stability and reactivity

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
<b>Incompatible materials</b>	Strong oxidizing agents.
<b>Hazardous decomposition products</b>	No hazardous decomposition products are known.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	May cause drowsiness or dizziness. Headache. Nausea, vomiting. Prolonged inhalation may be harmful.
<b>Skin contact</b>	Causes skin irritation.
<b>Eye contact</b>	Direct contact with eyes may cause temporary irritation.
<b>Ingestion</b>	Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.

<b>Symptoms related to the physical, chemical and toxicological characteristics</b>	Aspiration may cause pulmonary edema and pneumonitis. May cause drowsiness or dizziness. Narcosis. Headache. Nausea, vomiting. Behavioral changes. Decrease in motor functions. Skin irritation. May cause redness and pain.
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### Information on toxicological effects

#### Acute toxicity

Components	Species	Test Results
Toluene (CAS 108-88-3)		
<u>Acute</u>		
<b>Dermal</b>		
LD50	Rabbit	> 5000 mg/kg, 24 Hours

Components	Species	Test Results
<b>Inhalation</b>		
<i>Vapor</i>		
LC50	Rat	25.7 mg/l, 4 Hours
<b>Oral</b>		
LD50	Rat	5580 mg/kg
<b>Skin corrosion/irritation</b>	Causes skin irritation.	
<b>Irritation Corrosion - Skin</b>		
Toluene	(Regulation (EC) No. 440/2008, Annex, B.4) (Vendor SDS) Result: irritating Species: Rabbit Organ: Skin Test Duration: 4 h	
<b>Serious eye damage/eye irritation</b>	Direct contact with eyes may cause temporary irritation.	
<b>Respiratory or skin sensitization</b>		
<b>Respiratory sensitization</b>	Not a respiratory sensitizer.	
<b>Skin sensitization</b>	This product is not expected to cause skin sensitization.	
<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
<b>Carcinogenicity</b>	Not classifiable as to carcinogenicity to humans.	
<b>IARC Monographs. Overall Evaluation of Carcinogenicity</b>		
Toluene (CAS 108-88-3)	3 Not classifiable as to carcinogenicity to humans.	
<b>OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)</b>		
Not listed.		
<b>US. National Toxicology Program (NTP) Report on Carcinogens</b>		
Not listed.		
<b>Reproductive toxicity</b>	Suspected of damaging fertility or the unborn child.	
<b>Specific target organ toxicity - single exposure</b>	May cause drowsiness or dizziness.	
<b>Specific target organ toxicity - repeated exposure</b>	May cause damage to organs (central nervous system) through prolonged or repeated exposure.	
<b>Aspiration hazard</b>	May be fatal if swallowed and enters airways.	
<b>Chronic effects</b>	Prolonged inhalation may be harmful. May cause damage to organs through prolonged or repeated exposure.	

## 12. Ecological information

<b>Ecotoxicity</b>	Harmful to aquatic life with long lasting effects.		
<b>Components</b>			
Toluene (CAS 108-88-3)			
<i>Acute</i>			
	EC50		84 mg/l, 24 h (ECHA) (Vendor SDS)
<b>Aquatic</b>			
<i>Acute</i>			
Crustacea	LC50	Ceriodaphnia dubia	3.78 mg/l, 2 days
Fish	LC50	Oncorhynchus kisutch	5.5 mg/l, 96 hours
<i>Chronic</i>			
Crustacea	NOEC	Ceriodaphnia dubia	0.74 mg/l, 7 d (US-EPA) (Vendor SDS)
Fish	NOEC	Coho salmon, silver salmon (Oncorhynchus kisutch)	1.39 mg/l, 40 d (ECHA) (Vendor SDS)
<b>Persistence and degradability</b>	No data is available on the degradability of any ingredients in the mixture.		

## Bioaccumulative potential

### Partition coefficient n-octanol / water (log Kow)

Toluene 2.73

**Mobility in soil** No data available.

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

## 13. Disposal considerations

**Disposal instructions** Dispose of this material and its container to hazardous or special waste collection point. 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  
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Waste from residues / unused products** Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.

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

## 14. Transport information

### DOT

**UN number** UN1294  
**UN proper shipping name** Toluene, solution (Toluene RQ = 1818 LBS)  
**Transport hazard class(es)**  
**Class** 3  
**Subsidiary hazard** -  
**Label(s)** 3  
**Packing group** II  
**Environmental hazards**  
**Marine pollutant** No.  
**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.  
**Special provisions** IB2, T4, TP1  
**Packaging exceptions** 150  
**Packaging non bulk** 202  
**Packaging bulk** 242

### IATA

**UN number** UN1294  
**UN proper shipping name** Toluene solution (Toluene)  
**Transport hazard class(es)**  
**Class** 3  
**Subsidiary hazard** -  
**Packing group** II  
**Environmental hazards** No.  
**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

**UN number** UN1294  
**UN proper shipping name** TOLUENE SOLUTION (Toluene)

**Transport hazard class(es)**

Class 3

Subsidiary hazard -

Packing group II

**Environmental hazards**

Marine pollutant No.

EmS F-E, S-D

**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.**Transport in bulk according to** Not established.**IMO instruments****DOT****IATA; IMDG****15. Regulatory information****US federal regulations**

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

**Toxic Substances Control Act (TSCA)**

All components of the mixture on the TSCA 8(b) inventory are designated "active".

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Toluene (CAS 108-88-3)

**SARA 304 Emergency release notification**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)**

Not listed.

**Superfund Amendments 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)  
 Skin corrosion or irritation  
 Reproductive toxicity  
 Specific target organ toxicity (single or repeated exposure)  
 Aspiration hazard

**SARA 313 (TRI reporting)**

Chemical name	CAS number	% by wt.
Toluene	108-88-3	50 - 60

**Other federal regulations****Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Toluene (CAS 108-88-3)

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Contains component(s) regulated under the Safe Drinking Water Act.**Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number**

Toluene (CAS 108-88-3) 6594

**Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))**

Toluene (CAS 108-88-3) 35 %WV

**DEA Exempt Chemical Mixtures Code Number**

Toluene (CAS 108-88-3) 594

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

Toluene (CAS 108-88-3)

**California Proposition 65****WARNING:** This product can expose you to Toluene, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).**California Proposition 65 - CRT: Listed date/Developmental toxin**

Toluene (CAS 108-88-3) Listed: January 1, 1991

**International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	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)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
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
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "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(s).

**16. Other information, including date of preparation or last revision**

Issue date	01-13-2026
Version #	01

**Disclaimer**

Advanced Cell Diagnostics cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.