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

### 1. PRODUCT IDENTIFIER

## 1.1 PRODUCT NAME -----> DIISONONYL PHTHALATE

PRODUCT NUMBER(S)-----> 138200, 138209
TRADE NAMES AND SYNONYMS > 1,2 Benzenedicarboxylic acid, diisononyl ester

# 1.2 <u>RELAVENT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES</u> ADVISED AGAINST:

IDENTIFIED USES: Industrial: Preparation of adhesives, Lubricants manufacture, Construction chemicals, Plasticizer for polymers, Manufacture of coatings, inks and artists colors, Phlegmatizer ( to dilute organic peroxides).

<u>ADVISED AGAINST</u>: Industrial: Toys for children under the age of 3 which can be mouthed.

Consumer Use: Use as substances or in mixtures, in concentrations greater than 0,1 % by weight of the plasticized material, in toys and childcare articles.

CAS No. - 28553-12-0 CHEMICAL FAMILY: Phthalate Ester

#### 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) Not a hazardous substance or mixture.

2.2 GHS Label elements, including precautionary statements

Pictogram None

Signal word: None

**Hazard statement(s)** 

Not a hazardous substance or mixture.

**Precautionary statement(s)** 

Prevention:

P202 Do not handle until all safety precautions have been read and understood.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

P405 Store locked up.

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:

Ingredient	CAS No.	% by WT. CLASSIFICATION Range		
Diisononyl phthalate RegNo. 01-211	28553-12-0 EC#249-079-5 9430798-28-XXXX	  >99     	  Not a hazardous substance or mixture.       	

3.2 MIXTURE: Not applicable.

### 4. FIRST-AID MEASURES

### 4.1 DESCRIPTION OF FIRST AID MEASURES:

INHALATION: DIISONONYL PHTHALATE

\*\*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: DIISONONYL PHTHALATE

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

**EYE CONTACT: DIISONONYL PHTHALATE** 

\*\*FIRST AID- Wash eyes immediately with large amounts of water, occasionally lifting upper and lower lids, until no evidence of chemical remains (approximately 15-20 minutes). Remove contact lenses, if worn, after initial flush. Consult a physician if irritation persists.

INGESTION: DIISONONYL PHTHALATE

\*\*<u>FIRST AID-</u> Do not induce vomiting. Never give anything by mouth to an unconscious person. Have patient drink several glasses of water. Consult a physician or poison control center, treat symptomatically.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED:

**Eye**: Mildly irritating;

Skin: Mildly irritating;

<u>Inhalation</u>: Due to its low vapor pressure the inhalation potential is regarded as low. However if this product is heated, misted or sprayed, it may be irritating to the mucous membranes and upper respiratory tract.

Ingestion: May cause nausea, vomiting and diarrhea.

<u>Chronic</u>: The chronic health effects of this product have not been fully determined. See Section IX for animal toxicity.

<u>Medical Conditions Aggravated by Exposure</u>: Individuals with chronic respiratory disorders (i.e. asthma, chronic bronchitis, emphysema) may be adversely affected by any fume or particulate matter. Persons with pre-existing skin disorders may be more susceptible to the effects of this material.

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED:

Specific details on antidote: No recommendation given.

### **5. FIRE FIGHTING MEASURES**

FLASHPOINT: 228°C (292°F) Method DINH EN 22 719 LEL %: 0.3

AUTO-IGNITION TEMP: 400°C (752°F) UEL %: Not Known

#### **5.1 EXTINGUISHING MEDIA:**

Suitable extinguishing media: Foam--> x CO2--> x Dry Chemical--> x Water-fog-->

x Other-->

Unsuitable extinguishing media: Do not use waterjet.

#### 5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR

MIXTURE: Isolate fire and deny unnecessary entry. Keep containers tightly closed. Isolate from all sources of ignition. Closed containers may explode when exposed to extreme heat. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Vapor is heavier than air and can travel considerable distance to a source of ignition and flashback. Water or Foam may cause frothing.

**CONDITIONS OF FLAMMABILITY:** Not Flammable or Combustible.

<u>HAZARDOUS COMBUSTION PRODUCTS:</u> 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.

<u>5.3 ADVICE FOR FIREFIGHTERS:</u> Avoid inhalation of fumes or vapors. Shut off source. Water fog may be used to cool closed containers to prevent pressure build up. Wear NIOSH/MSHA approved self-contained breathing apparatus (SCBA) for confined spaces and where there is exposure to hot vapors. Use full fire-fighting protective clothing. If protective equipment is not available or not used, fight fire from a protected location or safe distance.

### 6. <u>ACCIDENTAL RELEASE MEASURES</u>

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES: 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.

<u>6.2 ENVIRONMENTAL PRECAUTIONS</u>: Avoid contaminating the environment via the sewers, drains or water sources.

#### 6.3 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP:

**Methods for cleanup and containment:** 

Use explosion proof equipment. Shut off valves, contain spill, for small spills add non-flammable absorbent such as clay or silica 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:

Remove contaminated soil to remove contaminated trace residues. Place all saturated absorbent, using non-sparking tools, in an approved container for disposal. Flush with water to remove trace residue. Minimize breathing vapors and skin contact, ventilate confined areas, open all windows and doors, assure conformity with applicable government regulations. Dispose of in accordance with current laws and regulations. Keep all nonessential people away.

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

### **7. HANDLING AND STORAGE**

7.1 PRECAUTIONS FOR SAFE HANDLING: Avoid breathing vapors, mist or gas in top of shipping container. Use with adequate ventilation. Do not take internally. Avoid prolonged or repeated contact with skin, eyes, and clothing. Avoid work practices that may release volatile components in the atmosphere. Avoid contaminating soil or releasing material into sewage and drainage systems. Use non-sparking tools to open or close containers.

7.2 CONDITIONS FOR SAFE STORAGE INCLUDING ANY INCOMPATIBILITES:

Local fire authorities should be notified for storage of this material in any quantity. Local permits are required for storage in warehouse quantities. Store large quantities only in buildings designed to comply with regulations. Keep containers tight and upright to prevent leakage. Do not store with incompatible materials. Keep containers closed when not in use.

#### 7.2 CONDITIONS FOR SAFE STORAGE INCLUDING ANY INCOMPATIBILITES:

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. Store large quantities only in buildings designed to comply with OSHA 1910.106. Keep containers tight and upright to prevent leakage. Do not store with incompatible materials. Keep containers closed when not in use. Storage class (TRGS 510): 12: Non Combustible Liquids

<u>CONTAINER WARNINGS:</u> Containers should be Bonded and Grounded when pouring. Use non-sparking tools to open or close containers. 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.

### **8. EXPOSURE CONTROL (PERSONAL PROTECTION)**

#### **8.1 CONTROL PARAMETERS**

Ingredient	CAS No.	% by WT. Range	Exposure Limits
Diisononyl Phthalate	2 8553-12-0 EC#249-079-5 2119430798-28-XXXX	   >99 	  5mg/m3 TWA (ACGIH)  5 mg/m3 TWA (OSHA)  5mg/m3 TWA (NIOSH)
3			10mg/m3 STEL (NIOSH)   

**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.

ENGINEERING CONTROLS: 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 specific respirator selected must be based on contamination levels found in the work place, must not exceed the working limits of the respirator.

No respiratory protection is usually required under normal conditions of use. If exposure level is unknown or are exposed to heated vapors use NIOSH/MSHA approved mask for protection against organic vapors should be used. Selection of respirator will depend on type and magnitude of exposure.

<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.

**SKIN PROTECTION:** 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. Employee must wear appropriate protective gloves to prevent contact with this substance.

Glove material: Neoprene - acceptable

**Butyl Rubber - best** 

Material thickness >= 0.5mm.

Breakthrough times of the glove material: >240 minutes (permeation: level 5)

<u>HYGIENE</u>: 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. 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:

Diisononyl phthalate 28553-12-0

APPEARANCE: Clear liquid COLOR: Colorless ODOR: Slight

ODOR THRESHOLD:

pH:

No Data Available

No Data Available

MOLECULAR WEIGHT: 419amu
MELTING POINT: -54°C
BOILING POINT: 270-280°C
SPECIFIC GRAVITY: 0.974 at 20°C

DENSITY (20°C): 0.972 g/ml @20°C (68°F) VAPOR PRESSURE: 5.4x10-7mmHg@25°C

VAPOR DENSITY: 14.5
WATER SOLUBILITY: <1.4mg/l
PARTITION COEFFICIENT N- 8.8-9.7

OCTANOL/WATER

FLASH POINT: 200°C EVAPORATION RATE (BUTYL ACETATE=1): Negligible

UPPER FLAMMABILITY LIMIT: No data available

LOWER FLAMMABILITY LIMIT: 0.3%
AUTO INGNITION TEMPERATURE: 400°C
DECOMPOSITION TEMPERATURE: >280°C
VISCOSITY: 100cps

EXPLOSIVE PROPERTIES: No data available OXIDIZING PROPERTIES: No data available

9.2 OTHER INFORMATION: No data available

### **10. STABILITY AND REACTIVITY INFORMATION**

- 10.1 REACTIVITY: No data available.
- 10.2 CHEMICAL STABILITY: Unstable ( ) Stable (X)
- 10.3 POSSIBILITY OF HAZARDOUS REACTIONS: Vapors may form flammable mixtures with air.

  HAZARDOUS POLYMERIZATION: May occur ( ) Will not occur (X)
- 10.4 <u>CONDITIONS TO AVOID</u>: --> Heat, Sparks, Pilot Lights, Static Electricity, and Open Flame.
- 10.5 <u>INCOMPATIBLE MATERIALS</u> --> Strong oxidants such as liquid chlorine, oxygen, sodium hypochlorite, inorganic acids e.g. hydrochloric acid, hydrogen peroxide.
- 10.6 <u>HAZARDOUS DECOMPOSITION PRODUCTS</u> --> 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

**ACUTE HEALTH EFFECTS:** 

Effects of overexposure:

Eye: Mildly irritating;

Skin: Mildly irritating;

Inhalation: Due to its low vapor pressure the inhalation potential is regarded as low. However if this product is heated, misted or sprayed, it may be irritating to the mucous membranes and upper respiratory tract.

Ingestion: May cause nausea, vomiting and diarrhea.

Chronic: The chronic health effects of this product have not been fully determined. See Section IX for animal toxicity.

Medical Conditions Aggravated by Exposure: Individuals with chronic respiratory disorders (i.e. asthma, chronic bronchitis, emphysema) may be adversely affected by any fume or particulate matter. Persons with pre-existing skin disorders may be more susceptible to the effects of this material.

#### **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 Rat	t  
Diisononyl Phthalate	   >10000mg/kg 	   >3160mg/kg   >4.4mg/L/4hr   	<b></b>

SKIN CORROSION/IRRITATION: No information available.

SERIOUS EYE DAMAGE/EYE IRRITATION: No information available.

RESPIRATORY OR SKIN SENSITIZATION: No information available.

MUTAGENIC EFFECTS: This substance is not classified for germ cell mutagenicity.

Test results OECD Guideline 471 were negative for S. typhimurium.
Test results OECD Guideline 473 were negative for Chinese hamster ovary
Test results OECD Guideline 476 were negative for mouse lymphoma and
negative for mammalian cell line

#### **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 identified as a carcinogen or potential carcinogen by OSHA.

REPRODUCTIVE TOXICITY: No data available.

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

ADDITIONAL DATA: Non-Toxic in case of one time contact with skin. Not toxic After single exposure (oral inhalation). Does not irritate skin or cause skin sensitization.

**RTECS: Not available** 

### 12. **ECOLOGICAL INFORMATION**

#### 12.1 ACUTE AQUATIC TOXICITY:

Toxicity to fish:

LC50 Brachiodanio rerio (Danio rerio) 102mg/l - 96hr

**Toxicity to Aquatic invertebrates:** 

EC50 Daphnia magna - 74mg/l - 24 h EC50 Daphnia magna - 74mg/l - 48 h

**Toxicity to Algae:** 

EC50 Desmodesmus subspicatus - 88mg/l - 72 h

#### 12.2 PERSISTANCE AND DEGRADABILITY:

aerobic - Exposure time 28 d

Result: 81 % - Readily biodegradable

Biological Oxygen Demand (BOD): No Data Available

#### **12.3 BIOACCUMULATIVE POTENTIAL:**

Octanol/Water Partition Coefficient: log Pow 8.8

Bio-concentration Factor (BCF): Does not bioaccumulate

- 12.4 MOBILITY IN SOIL: No data available
- 12.5 <u>RESULTS OF PBT AND vPvB ASSESSMENT</u>: Based on the assessment substance does not meet the criteria for PBT or vPvB.
- 12.6 <u>OTHER ADVERSE EFFECTS</u>: Do not allow this material to enter streams, sewers and other waterways.

### 13. DISPOSAL CONSIDERATIONS

13.1 <u>WASTE TREATMENT METHODS:</u> 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.

**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.

### 14. TRANSPORT INFORMATION

Land Transport (DOT)
14.1 USDOT ID Number> N/A
14.2 USDOT Shipping Name> Not DOT Regulated
No Dangerous Goods
14.3 USDOT Hazard Classification> N/A
USDOT Label Codes> N/A
14.4 USDOT Package Code> N/A
14.5 Environmental hazard> No

#### 14.6 Special precautions for user----> None

Sea Transport (IMDG)
14.1 UN Number:> N/A
14.2 Proper Shipping Name> Not Dangerous Goods
14.3 Hazard Class:> N/A
USDOT Label Codes> N/A
14.4 Packing Group:> N/A
14.5 Environmental hazard> No
Air Transport (IATA)
14.1 UN Number:> N/A
14.2 Proper Shipping Name:> Not Dangerous goods
14.3 Hazard Class:> N/A
USDOT Label Codes> N/A
14.4 Packing Group:> N/A
14.5 Environmental hazard> No

## **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) - Not listed SECTION 311/312: Hazard Categorization (40 CFR 370) - None

# <u>CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act)</u>

SECTION 102(A) Hazardous Substances (40 CFR 302.4) - Not Listed Reportable Quantity – None SECTION 101(14) Reportable Quantity: None

Massachusetts Right to Know Components Not listed

Pennsylvania Right to Know Components Diisononyl phthalate CAS-No. 28553-12-0

New Jersey Right to Know Components Diisononyl phthalate CAS-No. 28553-12-0

California Prop. 65 Components WARNING! This product contains a chemical known to the State of California to cause cancer. Diisononyl phthalate CAS-No. 28553-12-0

#### **TSCA (Toxic Substance Control Act)**

Diisononyl Phthalate CAS No - 28553-12-0 is listed on the TSCA Inventory.

## International Inventories:

Country or Region	Inventory Name On inventory ye	<u>es/no</u>
<u>Australia</u>	Australian Inventory of Chemical Substances (AICS)	Yes
<u>Canada</u>	Domestic Substances List (DSL)	Yes
<u>Canada</u>	Non-Domestic Substances List (NDSL)	No
<u>China</u>	Inventory of Existing Chemical Substances in China (IECSC)	Yes
<u>Europe</u>	European Inventory of Existing Commercial Chemicals	Yes
	Substances (EINECS)	
<u>Europe</u>	European List of Notified Chemical Substances (ELINCS)	No
<u>Japan</u>	Inventory of Existing and New Chemical Substances (ENCS)	Yes
<u>Japan</u>	Industrial Safety & Health Law Inventory (ISHL)	Yes
<u>Korea</u>	Existing Chemicals List (ECL)	Yes
<u>Mexico</u>	National Inventory of Chemical Substances (INSQ)	Yes
New Zealand	New Zealand Inventory	Yes
<u>Philippines</u>	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
<u>Switzerland</u>	Inventory of Notified New Substances (CHINV)	Yes
<u>Taiwan</u>	National Existing Chemical Inventory (NECI)	Yes
<b>United States &amp;</b>	Toxic Substances Control Act Inventory	Yes
Puerto Rico		

15.2 CHEMICAL SAFETY ASSESSMENT: A chemical safety assessment has been carried out for this substance.

### 16. OTHER INFORMATION:

**HMIS** (Hazardous Materials Identification System)

### **Hazard Rating:**

4-Extreme

3-High

2-Moderate

1-Slight

**0-Insignificant** 

NFPA RATINGS (SCALE 0-4): Health=0 Fire=1 Reactivity=0

HMIS RATINGS (SCALE 0-4): Health=1 Fire=1 Reactivity=0 PPE=B

Hazard statement(s) from Section 2 and 3:

Not a hazardous substance or mixture.

Date of preparation----> February 24, 2005

Revision Number----> 1.8

Revision Content-----> Updated sections: 1, 3, 4, 5, 7, 8, 10, and 16.

**Revision Date----> January 18, 2019** 

Prepared by-----> T. G. Fenstermaker Jr.

#### 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
EPA - U.S. Environmental Protection Agency
HMIS - Hazardous Materials Information System
IARC - International Agency For Research On Cancer

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

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