

DRIP Committee

From: Chad Falkenberg <chad@soilworks.com>
Sent: Wednesday, October 4, 2023 1:43 PM
To: DRIP Committee
Cc: Alice L. Lee; Yukilei Sugimura; Tasha A. Kama; Thomas M. Cook; Gabe Johnson; Tamara A. Paltin; Keani N. Rawlins; Shane M. Sinenci; Nohe M. Uu-Hodgins
Subject: Gratitude and Clarification Regarding Soiltac's Safety and Application
Attachments: Soiltac Safety Data Sheet 2022-06-02.pdf

Some people who received this message don't often get email from chad@soilworks.com. [Learn why this is important](#)

Aloha, Honorable Council Members,

Thank you for granting me the opportunity to participate in today's public meeting. It was a privilege to share insights and clarify misconceptions regarding Soiltac, especially during these critical moments when the aftermath of the Maui fires presents us with a collective environmental and health challenge.

Attached to this email and via the following [link](#) is the publicly available Safety Data Sheet (SDS) for Soiltac (liquid form), which was requested during our discussions. I would like to reiterate that it is the liquid form of Soiltac, simply called "Soiltac," that is recommended for treating the toxic ash in Maui, not the powdered version (Powdered Soiltac) or any other product from Soilworks. It is imperative to note that Soiltac is not under any patent protection, rendering any discussions or references to patents irrelevant and misplaced in the context of its application and usage in Maui.

Kindly reference Section 11 (Toxicological Information) and Section 12 (Ecological Information) on page 6 of the attached SDS for detailed insights into the safety and ecological aspects of Soiltac. As outlined, Soiltac is classified as "practically non-toxic" to all species according to EPA guidelines, which is substantiated by comprehensive aquatic and terrestrial toxicity testing results listed in Section 12. This classification is the lowest toxicity category available within the [EPA guidelines](#) (with no absolute "non-toxic" category available) and the results are significantly more favorable than the minimum for that category. All testing was rigorously conducted on the pure concentrate by 3rd party independent laboratories, upholding scientific integrity and delivering quantitative, fact-based results. Furthermore, all original testing results and the precise product ingredients, some of which are not listed in the SDS, have been thoroughly disclosed to the EPA, affirming our commitment to transparency and science-based action.

In light of misconceptions, I must underline that Soiltac does not contain UV-resistant additives and does not degrade into toxic microplastics. Furthermore, Soiltac is not a hot melt, thermoplastic, polyvinyl chloride acetate, or polyvinylpyrrolidone, contrary to some suppositions.

Your ongoing dedication to the well-being of Maui and its residents, especially in the face of current challenges, is truly commendable. Once again, thank you for the opportunity to be heard, and please do not hesitate to reach out should further questions or concerns arise. Soilworks remains steadfast in our commitment to facilitating constructive dialogue and aiding the beautiful island of Maui in these trying times.

Mahalo for your attention and consideration.

Respectfully,
Chad Falkenberg
CEO & Chairman

SOILWORKS®, LLC - 20 Years of Solid Ground & Clear Skies

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SOILTAC® SAFETY DATA SHEET

SECTION 1 – IDENTIFICATION

PRODUCT NAME	SOILTAC® Soil Stabilizer & Dust Control Agent		
CHEMICAL FAMILY	Synthetic Copolymer Dispersion		
MANUFACTURER	Soilworks®, LLC – Soil Stabilization & Dust Control 7150 E. Camelback Rd., #444 Scottsdale, Arizona 85251 USA (800) 545-5420 USA +1 (480) 545-5454 International info@soilworks.com www.soilworks.com		
EMERGENCY PHONE NUMBERS	(800) 545-5420	USA	
	+1 (480) 545-5454	International	
U.S. DATA UNIVERSAL NUMBERING SYSTEM (DUNS NUMBER)	Soilworks, LLC 131946159		
U.S. DEPARTMENT OF DEFENSE COMMERCIAL AND GOVERNMENT ENTITY CODE (CAGE CODE)	Soilworks, LLC 3FTH5		
U.S. DEPARTMENT OF DEFENSE NATIONAL STOCK NUMBERS (NSN)	275-gallon (1,041 Liter)	Intermediate Bulk Container (IBC) Tote	6850-01-519-4708
	55-gallon (208 Liter)	Drum	6850-01-519-4706
U.S. GENERAL SERVICES ADMINISTRATION (GSA) CONTRACT	Soilworks, LLC	GS-07F-5364P	October 31, 2018

SYNONYMS/OTHER MEANS OF IDENTIFICATION

Soiltac is a formulated, high molecular weight, engineered, prime synthetic copolymer dispersion.

INTENDED USES

For industrial use only. Major industries include construction, mining, military, municipal, oil & gas, energy & renewable energy and transportation.

Abate dust, air quality control, control dust, controlling dust, desertification prevention, dune stabilization, dust abatement, dust control, dust control agent, dust control material, dust control product, dust elimination, dust inhibitor, dust mitigation, dust palliative, dust pollution control, dust pollution prevention, dust prevention, dust reduction, dust retardant, dust stabilization, dust stabilizer, dust suppressant, dust suppression, eliminate dust, erosion control, erosion control material, erosion control product, erosion prevention, fines preservation, fugitive dust control, hydromulch tackifier, hydroseed tackifier, inhibit dust, mitigate dust, pm10 control, pm2.5 control, prevent dust, reduce dust, retard dust, road stabilization, road stabilizer, sand stabilization, soil additive, soil amendment, soil binder, soil crusting agent, soil solidifier, soil stabilization, soil stabilizer, stabilize dust, stabilize soil, stockpile capping, stop dust, suppress dust, surface wear course, wind erosion control.



SECTION 2 – HAZARDS IDENTIFICATION

Emergency Overview

Appearance:	Milky white liquid (transparent once cured)
Odor:	Sweet and mild (no odor once cured)
Health Hazards:	Under normal conditions of industrial use, this material is NOT expected to be a primary route of exposure
Safety Hazards:	Nonflammable
Environmental Hazards:	NOT classified as dangerous for the environment

HEALTH HAZARDS

INHALATION	Under normal conditions of industrial use, this material is NOT expected to be a primary route of exposure.
SKIN CONTACT	Under normal conditions of industrial use, this material is NOT expected to be a primary route of exposure.
EYE CONTACT	Under normal conditions of industrial use, this material is NOT expected to be a primary route of exposure.
INGESTION	Under normal conditions of industrial use, this material is NOT expected to be a primary route of exposure.

GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS (GHS)

Not a hazardous substance or mixture.

U.S. HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS) RATING

Health	0	No significant risk to health
Flammability	0	Material will not burn
Physical Hazard	0	Stable, non-reactive and non-explosive
Personal Protection	-	No special hazard under normal use

SECTION 3 – COMPOSITION/ INFORMATION ON INGREDIENTS

This material does NOT contain hazardous ingredients and is NOT considered hazardous according to OSHA criteria.

#	COMPONENT	%	CAS Number
1.	Synthetic Vinyl Copolymer Dispersion	55%	Non-Hazardous
2.	Water	45%	7732-18-5

BYPRODUCT / RECYCLED CONTENT

None

SECTION 4 – FIRST-AID MEASURES

Provide medical care provider with this Safety Data Sheet.

EYE CONTACT

If irritation or redness develops from exposure, flush eyes with clean water. If irritation persists, seek medical attention.

SKIN CONTACT

No treatment necessary under normal conditions of use. Remove contaminated clothing. Wash affected area with mild soap and water. If irritation or redness develops and persists, seek medical attention.



INHALATION

No treatment necessary under normal conditions of use. If breathing difficulties develop move victim away from source of exposure and into fresh air in a position comfortable for breathing. If symptoms persist, seek medical attention.

INGESTION

If swallowed do not induce vomiting. If symptoms persist, seek medical attention.

SECTION 5 – FIRE-FIGHTING MEASURES

FLAMMABILITY

Nonflammable and NOT combustible.
This material is an aqueous mixture that will not burn.
Dried material will burn in a fire.

FLASH POINT

Nonflammable

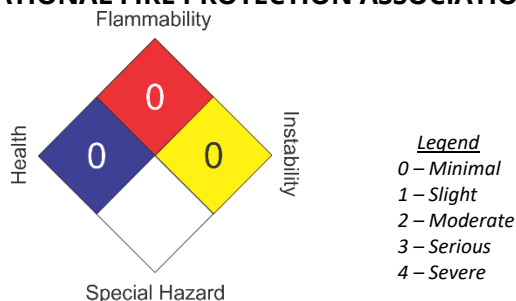
EXTINGUISHING MEDIA

Use water spray, foam, dry chemical or carbon dioxide.

SPECIAL FIRE FIGHTING PROCEDURES & PROTECTIVE EQUIPMENT

Cool closed containers exposed to fire with water spray. Proper protective equipment including breathing apparatus must be worn when approaching a fire in a confined space.

U.S. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 704 HAZARD CLASS



SECTION 6 – ACCIDENTAL RELEASE MEASURES

For guidance on selection of personal protective equipment see Chapter 8 of this Safety Data Sheet. See Chapter 13 for information on disposal. Observe the relevant local and international regulations.

PROTECTIVE MEASURES

Stop the leak, if possible. Avoid contact with skin and eyes. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches, sewers, rivers or open bodies of water by using sand, earth or other appropriate barriers.

CLEAN-UP METHODS

Avoid accidents, clean up immediately. Slippery when spilled. Prevent from spreading by making a barrier with sand, earth or other containment material. Reclaim liquid directly or in an absorbent. Soak up residue with an absorbent such as clay, sand or other suitable material and dispose of properly.

ADDITIONAL ADVICE

Local authorities should be advised if significant spillages cannot be contained.



SECTION 7 - HANDLING AND STORAGE

GENERAL PRECAUTIONS

Use local exhaust ventilation if there is risk of inhalation of vapors, mists or aerosols. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.

STORAGE

Keep container tightly closed in a cool, well-ventilated place. Use properly labelled and closeable containers. Maintain storage temperature $\geq 40^{\circ}\text{F}$ (4°C) to avoid freezing and destabilization. Ideal storage temperature is 72°F (22°C).

HANDLING

Avoid breathing vapors or mist. Avoid contact with eyes. Avoid prolonged or repeated contact with skin. Wash thoroughly after handling. When handling material in drums, safety footwear should be worn and proper handling equipment should be used.

RECOMMENDED MATERIALS

For containers or container linings, use mild steel or high density polyethylene.

ADDITIONAL INFORMATION

Do not freeze.

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS

Contains no substances with occupational exposure limit values.

EXPOSURE CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Adequate ventilation to control airborne concentrations. Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

RESPIRATORY PROTECTION

Respiratory protection is NOT required under normal conditions of use in a well-ventilated workplace. In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material. If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Select a filter suitable for combined particulate/organic gases and vapors.

HAND PROTECTION

Where hand contact with the material may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed with soap and water and dried thoroughly.



EYE PROTECTION

Eye protection is NOT required under normal conditions of use. If material is handled such that it could be splashed into eyes, wear splash-proof safety goggles or full face shield.

PROTECTIVE CLOTHING

Skin protection is NOT required under normal conditions of use or for single, short duration exposures. For prolonged or repeated exposures, use impervious chemical resistant boots, gloves and/or aprons over parts of the body subject to exposure.

MONITORING METHODS

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT	>212 °F (>100 °C)
COLOR	Milky white (transparent once cured)
DENSITY	8.85-9.15 lb./gal (1.06-1.1 kg/l)
DYNAMIC VISCOSITY	290 cP @ 140 °F (60 °C)
DYNAMIC VISCOSITY	420 cP @ 104 °F (40 °C)
EVAPORATION RATE	<1 (BuAc = 1)
FLASH POINT	Nonflammable
FREEZING POINT	<32 °F (<0 °C)
ODOR	Sweet and mild (no odor once cured)
PH	5
PHYSICAL FORM	Liquid
SPECIFIC GRAVITY	1.05-1.10
VAPOR DENSITY	>1 (Air = 1)
WATER SOLUBILITY	100% dispersible, completely (until cured)

SECTION 10- STABILITY AND REACTIVITY

CHEMICAL STABILITY

Stable. Coagulation may occur following freezing, thawing or boiling.

Stability at 72 °F (22 °C) is ≥12 months.

CONDITIONS TO AVOID

Freezing (until cured).

HAZARDOUS REACTIONS

Hazardous polymerization does not occur.

HAZARDOUS DECOMPOSITION

Hazardous decomposition products are NOT expected to form during normal storage.

CORROSIVITY

Non-corrosive.



SECTION 11 - TOXICOLOGICAL INFORMATION

CARCINOGENICITY

Components $\geq 0.1\%$ are NOT known to be associated with carcinogenic effects.

ACGIH	American Conference of Governmental Industrial Hygienists	Not listed as carcinogenic
IARC	World Health Organization International Agency for Research on Cancer	Not listed as carcinogenic
NTP	U.S. National Toxicology Program	Not listed as carcinogenic
OSHA	U.S. Occupational Safety and Health Administration	Not listed as carcinogenic
Prop 65	California Office of Environmental Health Hazard Assessment Proposition 65	Not listed as carcinogenic

REPRODUCTIVE AND DEVELOPMENTAL TOXICITY

NOT expected to be a hazard.

DIOXINS & FURANS (PCDD's / PCDF's)

None Detected – QC066-97, GC-MS

METALS

None Detected – EPA 6020 & 3050

POLYCHLORINATED BIPHENYL (PCBs) AROCLORS

None Detected – EPA 8082

POLYCYCLIC AROMATIC HYDROCARBONS (PAH's)

None Detected – EPA 3510, GC-MS

SEMI-VOLATILE ORGANIC COMPOUNDS (SVOC)

None Detected - EPA 8270, GC-MS

VOLATILE ORGANIC COMPOUNDS

None Detected – EPA 8260, GC-MS

SECTION 12 - ECOLOGICAL INFORMATION

Based on EPA guidelines, this material is classified as practically non-toxic to all species. When used and applied properly, this material is not known to pose any ecological problems.

AQUATIC TOXICITY

Bacterium	Aliivibrio fischeri	15 minute	IC ₅₀	>6,200 mg/L
Fathead Minnow	Pimephales promelas	7 day	IC ₅₀	>95,000 mg/L
Fathead Minnow	Pimephales promelas	7 day	LC ₅₀	>240,000 mg/L
Fathead Minnow	Pimephales promelas	96 hour	LC ₅₀	>1,200 mg/L
Microalga	Pseudokirchneriella subcapitata	96 hour	IC ₅₀	>250,000 mg/L
Microalga	Pseudokirchneriella subcapitata	96 hour	LC ₅₀	>1,000 mg/L
Rainbow Trout	Oncorhynchus mykiss	96 hour	LC ₅₀	>1,000 mg/L
Water Flea	Daphnia magna	48 hour	LC ₅₀	>175,000 mg/L

TERRESTRIAL TOXICITY

Earthworm	Eisenia andrei	14 day	LC ₅₀	>1,000,000 mg/L
Lettuce	Root elongation	120 hour	EC ₅₀	>1,000,000 mg/L
Lettuce	Seed germination	120 hour	LC ₅₀	>1,000,000 mg/L

OTHER ADVERSE EFFECTS

The material contains non-volatile components, which are NOT expected to be released to air in any significant quantities. The material is NOT expected to have ozone depletion potential, photochemical ozone creation potential or global warming potential.

SECTION 13 - DISPOSAL CONSIDERATIONS

MATERIAL DISPOSAL

Recover or recycle if possible. Do NOT dispose into the environment, in drains or in water courses. To the best of our knowledge, this material does not meet the definition of hazardous waste under the U.S. EPA Hazardous Waste Regulations 40 CFR 261. Solidify and dispose of in an approved landfill. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations.



CONTAINER DISPOSAL

Dispose in accordance with prevailing regulations, preferably to a recognized collector or contractor. The competence of the collector or contractor should be established beforehand.

LOCAL LEGISLATION

Dispose in accordance with applicable regional, national and local laws and regulations.

SECTION 14 - TRANSPORT INFORMATION

NOT dangerous goods.

U.S. DEPARTMENT OF TRANSPORTATION (DOT)

NOT regulated. This material is NOT subject to DOT regulations under 49 CFR Parts 171-180.

INTERNATIONAL MARITIME DANGEROUS GOODS (IMDG)

NOT regulated. This material is NOT classified as dangerous under IMDG regulations.

INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA)

NOT regulated. This material is either NOT classified as dangerous under IATA regulations or needs to follow country specific requirements.

SECTION 15 - REGULATORY INFORMATION

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

U.S. FEDERAL REGULATIONS

EPA COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA)

This material does NOT contain any chemicals with U.S. EPA CERCLA reportable quantities.

EPA SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA)

This material does NOT contain any chemicals with SARA reportable quantities.

EPA TOXIC SUBSTANCES CONTROL ACT (TSCA)

All components listed or in compliance with the inventory.

EPA CERCLA/SARA SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES AND TPQS

This material does NOT contain any chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372.

EPA CERCLA/SARA SECTION 311/312 (TITLE III HAZARD CATEGORIES)

Acute Health:	No
Chronic Health:	No
Fire Hazard:	No
Pressure Hazard:	No
Reactive Hazard:	No

EPA CERCLA/SARA SECTION 313 AND 40 CFR 372

This material does NOT contain any chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372.

CLEAN AIR ACT (CAA)

This material does NOT contain any hazardous air pollutants (HAP, as defined by the CAA Section 12 (40 CFR 61).



U.S. STATE REGULATIONS

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65)

This material does NOT contain any chemicals known to the State of California to cause cancer, birth defects or reproductive harm.

CANADIAN REGULATIONS

This material has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the regulations.

CANADIAN DOMESTIC SUBSTANCES LIST (DSL)

All components listed or in compliance with the inventory.

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHIMIS)

None. This material is NOT a controlled material under the Canadian WHIMIS.

BUREAU DE NORMALIZATION DU QUÉBEC (BNQ)

Soiltac conformed as a dust control agent for non-asphalted roads and other similar surfaces.

Certificate of Conformity: 2014-08-06 – 2015-06-30

Certificate #: 1743

Standard #: BNQ 2410-300/2009-10-01

Certification Protocol #: BNQ 2410-900/2010-01-12

INVENTORY REGULATIONS

Australia	AICS	All components listed or in compliance with the inventory.
Canada	DSL/NDSL	All components listed or in compliance with the inventory.
China	IECSC	All components listed or in compliance with the inventory.
Japan	ENCS	All components listed or in compliance with the inventory.
Korea	KECI	All components listed or in compliance with the inventory.
Philippines	PICCS	All components listed or in compliance with the inventory.
United States	TSCA	All components listed or in compliance with the inventory.

INVENTORIES LEGEND

AICS	Australian Inventory of Chemical Substances
DSL	Canadian Domestic Substances List
ENCS	Japanese Existing and New Chemical Substances
IECSC	China Existing Chemical Inventory
KECI	Korea Existing Chemicals Inventory
NDSL	Canadian Non-Domestic Substances List
PICCS	Philippine Inventory of Chemicals and Chemical Substances
TSCA	Toxic Substances Control Act



SECTION 16 – OTHER INFORMATION

SDS VERSION NUMBER 1.2

SDS EFFECTIVE DATE 7/13/2015

SDS REGULATIONS

The content and format of this SDS is in accordance with the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SDS DISTRIBUTION

The information in this document should be made available to all who may handle the material.

DISCLAIMER

The information presented in this Safety Data Sheet is based on data believed to be accurate as of the date this Safety Data Sheet was prepared. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE MATERIAL, THE SAFETY OF THIS MATERIAL, OR THE HAZARDS RELATED TO ITS USE. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information provided above, and the material, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the material for their particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license.



Appendix I. Toxicity Categories and LOCs

Table 1. Categories of Toxicity for Aquatic Organisms

LC ₅₀ (ppm)	Toxicity Category
< 0.1	Very highly toxic
> 0.1 - 1	Highly toxic
> 1 - 10	Moderately toxic
> 10 - 100	Slightly toxic
> 100	Practically nontoxic

Table 2. Categories of Toxicity for Terrestrial Organisms

Oral dose LD ₅₀ (mg/kg-bw)	Toxicity Category
< 10	Very highly toxic
10 - 50	Highly toxic
51 - 500	Moderately toxic
501 - 2000	Slightly toxic
> 2000	Practically nontoxic
Dietary LC ₅₀ (ppm)	Toxicity Category
< 50	Very highly toxic
50 - 500	Highly toxic
501 - 1000	Moderately toxic
1001 - 5000	Slightly toxic
> 5000	Practically nontoxic

Table 3. Categories of Toxicity for Bee

Bee Acute Contact LD ₅₀ (µg/bee)	Toxicity Category
<2	Highly toxic
2 – 10.99	Moderately toxic
≥ 11	Practically nontoxic

Table 4. Levels of Concern for Terrestrial and Aquatic Organisms

Taxa	Acute LOC	Chronic LOC
Avian ¹ (terrestrial phase amphibians)	0.1	1
Mammalian ²	0.1	1
Terrestrial ³ and Aquatic plants ⁴	1	
Aquatic Animals ⁵ (aquatic phase amphibians)	0.05	1
Insects ⁶	0.05	1

Used in RQ calculations:

¹ LD₅₀ and estimated NOEL

² LD₅₀ and NOEC

³ EC25

⁴ EC50

⁵ LC/EC₅₀ and estimated and reproductive NOEC

⁶ LD₅₀ per EFED's CRLF Steering Committee