

SAFETY DATA SHEET

REVISE DATE: 07/02/2015

SECTION 1: IDENTIFICATION

PRODUCT: Diisodecyl Phthalate
SYNONYM: 1,2-benzenedicarboxylic acid, diisodecyl ester; DIDP
RECOMMENDED USES: Plasticizer
SUPPLIER: Just In Time Chemical
 1711 W. Elizabeth Ave
 Linden, NJ 07036
GENERAL INFORMATION: 908-523-9800
EMERGENCY INFORMATION: CHEMTREC
 800-424-9300

SECTION 2: HAZARDOUS IDENTIFICATION

Canada – WHMIS not controlled under WHMIS
Key: **B 2** – Flash point <38° C, **B 3** – Flash Point > 38° C & < 93° C
D 3 – Immediately Toxic, **D 2** – Chronic Toxicity
C – Oxidizing Substance, **E** – Corrosive **F** – Reactive Substance

GHS Classification: Not Available
Classification (29CFR1910.1200 Appendix A): Not Listed
GHS Physical Hazard: Not Listed
GHS Health Hazard: Not Listed
GHS Environmental Hazard: Not Listed

GHS Labeling
Symbol: Not Listed
Signal Word: Not Listed
Hazard Statements: Not Listed

Precautionary Statements: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may cause potential human health risks which may vary from person to person.

SECTION 3: COMPOSITION AND INFORMATION ON INGREDIENTS

No.	Component CAS REG. NO.	TWAEV / TLV Mg/m ³	LD ₅₀ (mg/kg) ORAL	LD ₅₀ (mg/kg) SKIN	LC ₅₀ ppm INHALATION
1	Diisodecyl Phthalate 68515-49-1	Not Listed	62,000	>3160	>12,540

SECTION 4: FIRST AID MEASURES

Skin: Wash with plenty of water. Remove contaminated clothing and do not reuse until thoroughly laundered.
Eyes: Wash eyes with plenty of water, holding eyelids open. Seek medical assistance promptly if there is irritation.
Inhalation: Remove from contaminated area promptly. **CAUTION: Rescuer must not endanger himself!** If breathing stops, administer artificial respiration and seek medical aid promptly.
Ingestion: Give plenty of water to dilute product. Do not induce vomiting (NOTE below). Keep victim quiet. If vomiting occurs, lower victim's head below hips to prevent inhalation of vomited materials. Seek medical help promptly.

Inadvertent inhalation of vomited material may seriously damage the lungs. The danger of this is greater than the risk of poisoning through absorption of this relatively low-toxicity substance. The stomach should only be emptied under medical supervision, and after the installation of an airway to protect the lungs

SECTION 5: FIRE FIGHTING MEASURES

Flash Point: 232°C / 450°F (closed cup)

Auto-ignition Temperature: 380°C / 716°F – (an average of several available values)

Flammable Limits: 0.3 – upper limit unknown

Products of Combustion: Carbon monoxide, nitrogen oxides, smoke, part oxidized hydrocarbon fragments

Fire Fighting Equipment/Instructions: foam, dry chemical, water fog, water spray only to cool & dilute, product floats on water – water jet spreads flames; firefighters must wear SCBA

Static Charge Accumulation: not known – flash point far too high to ignite by means of static discharge

SECTION 6: ACCIDENTAL RELEASE MEASURES

Leak Precaution: dike to control spillage and prevent environmental contamination

Handling Spill: ventilate contaminated area; recover free liquid with suitable pumps; absorb residue on an inert sorbent, sweep, shovel & store in closed containers for recycling or disposal

SECTION 7: HANDLING AND STORAGE

Handling: Never cut, drill, weld or grind on or near this container. Avoid contact with skin and wash work clothes frequently. An eye bath and safety shower must be available near the workplace.

Storage: Store in a cool, dry environment, away from sources of ignition, heat and oxidizing agents. Always ensure that containers, whether empty or full, or part full, are tightly sealed unless in use.

NOTE: Where allergic reactions or sensitization have been reported with diisodecyl phthalate, this is believed to be due to the presence of unreacted monomer or oligomer present in incompletely cured polymer, and not to the plasticizer.

Many phthalates appear to alter the action of sex hormones in the fetus and in young children. Although there is less evidence of an effect in adults, it is prudent to minimize skin contact with these substances.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Ontario TWA/EV: Not Listed

ACGIH TLV: Not Listed

OSHA PEL: Not Listed

Ventilation: No special ventilation required

Hands: No special protective gloves required; butyl or nitrile gloves are resistant – confirm suitability with supplier

Eyes: Safety glasses with side shields – *always protect the eyes*

Clothing: No special protective clothing required

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Odor & Appearance: clear, colorless, viscous liquid with almost no odor

Odor Threshold: not known – odorless

Vapor Pressure: 5.28×10^{-7} mmHg / 7×10^{-5} kPa (25°C / 77°F)

Evaporation Rate (Butyl Acetate = 1): not known – *extremely low volatility*

Vapor Density (air = 1): 15 (theoretical)

Boiling Range: 250 - 257°C / 482 - 495°F (at 4mmHg – near vacuum); at atmospheric pressure, > 400°C / 750°F

Freezing Point: -45°C / -49°F (mean value – various values given)

Specific Gravity: 0.996 (20/20°C)

Water Solubility: 0.2 micrograms per liter (20°C / 68°F) – *virtually nil*

Also Soluble in: Acetone and many non-polar solvents

Partition Coefficient (Octanol/H₂O): 8.8 (measured), 10.3 (calculated)

Viscosity: 130 centipoise (20°C / 68°F)

pH: none – (does not liberate hydrogen ions when dissolved)

Molecular Weight: 447 grams/mole

SECTION 10: STABILITY AND REACTIVITY

Dangerously reactive with: strong oxidizing agents

Also reactive with: none known

Stability: stable; will not polymerize

Decomposes in Presence of: gradually hydrolyses in both alkaline and acidic conditions

Decomposition Products: none apart from Hazardous Combustion Products

Sensitive to Mechanical Impact: no

SECTION 11: TOXICOLOGICAL INFORMATION

Effects, Acute Exposure

Skin Contact: May be slightly irritating
Skin Absorption: Slight; no acute toxic effects likely by this route, but see NOTE below
Eye Contact: May be mildly irritating
Inhalation: Low vapor pressure and high viscosity make inhalation unlikely
Ingestion: No effect in rodent testing

Effects, Chronic Exposure

General: Liver damage reported in rodents and dogs fed DIDP; not a route of industrial exposure
Sensitizing: Not a sensitizer in humans or animals; very few reports of human sensitization usually associated with monomers or oligomers in incompletely cured polymer, not the plasticizer

Carcinogen/Tumorigen: Not considered a tumorigen or a carcinogen in humans or animals
Reproductive Effect: Rodent fetotoxicity on prolonged feeding; no known effect in humans or animals

Mutagen: No known effect on humans or animals

Synergistic With: Not known

LD₅₀ (oral): 64,000mg/kg (rat)

LD₅₀ (skin): over 3160mg/kg (rabbit) – *no mortality occurred*, over 9660mg/kg (rat)

LC₅₀ (inhalation): over 12,540mg/m³ (rat) – *no mortality occurred*

***Note:** *Small amounts of phthalates can be absorbed from a variety of plastics by ingestion. Metabolism of phthalates can produce substances which mimic sex hormones – they are thought to be "anti androgens" – and may have effects on the developing fetus & young children. There are also weak (and unproven) statistical links to health effects such as obesity, insulin resistance, and attention deficit disorder. Although absorption via the skin is slight, even tiny amounts of phthalates may be able to produce harmful effects as "hormone mimics". Accordingly take care to limit skin contact with this product. Please note that the above is characteristic of phthalates in general, and does not depend on either the source or the manufacturer of the product.*

SECTION 12: ECOLOGICAL INFORMATION

Bioaccumulation: Does not bioaccumulate in most species despite very low water solubility; probably because of ready metabolism by most living creatures; in fish ¹/₂-life may be as brief as 90 minutes

Biodegradation: Biodegrades in the presence of oxygen; various tests show 30-50% biodegradation in 2-3 weeks; also 56% in 28 days & 99% in 28 days; Pseudomonas acidovarans digests DIDP with ¹/₂-life of 4 days

Abiotic Degradation: reacts with atmospheric hydroxyl radicals; estimated ¹/₂ –life in air is 15 hours

Mobility in soil, water: Water insoluble; virtually immobile in soil

Aquatic Toxicity:

LC₅₀ (Fish, 96h): >0.47mg/liter (Cyprinodon variegatus), > 1 mg/liter (Pimephales promelas), >0.62mg/liter (Salmo gairdneri), >0.55mg/liter (Lepomis macrochirus), 10,000mg/liter (Leuciscus idus)*

EC₅₀ (Crustacea, 24 h): >500mg/liter (Daphnia magna)

EC₅₀ (Crustacea, 48 h): 180mg/liter (Daphnia magna)

EC₅₀ (Algae, 72 h): 500mg/liter (Scenedesmus subspectatus), 0.8mg/liter (Pseudokirchneriella subsubcapitata)

EC₀ (Bacteria): 25,000mg/liter (Pseudomonas putida)* - *this dose had no effect – EC₀*

***NOTE:** *These doses are far higher than the water solubility of DIDP.*

Also, wide variation in toxicity to aquatic life suggests that the above results are highly dependent on the method of administration (eg: mechanical emulsification, surfactant aided dispersion, etc) of this strongly hydrophobic substance.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal: Does not flush to sewer, recycle solvent if possible, may be mixed with flammable waste solvent and incinerated in approved facility with flue gas monitoring and scrubbing

Containers: **Drums** should be reused. Recondition and pressure test by a licensed reconditioner prior to re-use

Pails must be vented and thoroughly dried prior to crushing and recycling

IBCs (intermediate bulk containers): polyethylene bottle must be pressure tested & recertified at 30 months. Replace at 60 months (5 years). Steel containers must be inspected, pressure tested & recertified every 5 years.

Never cut, drill, weld or grind on or near this container, even if empty

SECTION 14: TRANSPORTATION INFORMATION

Canada TDG AND U.S.A. 49 CFR Marine Pollutant ERAP required	PIN Shipping Name Class & Packing Group	UN – not regulated for transport not regulated for transport not regulated for transport not a marine pollutant NO
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SECTION 15: REGULATORY INFORMATION

Canada DSL	on inventory
U.S.A. TSCA	on inventory
Europe EINECS	on inventory

NOTE: Six phthalates (DBP, BBP, DOP, DINP, & DIDP) have been banned by the USA "Consumer Product Safety Improvement Act (2008) Other restrictions on the use of phthalates also exist in Europe & Canada A USA EPA review document ("Phthalates Action Plan", March 14, 2012) on Phthalates is available: http://www.epa.gov/oppt/existingchemicals/pubs/actionplans/phthalates_actionplan_revised_2012-03-14.pdf And a USA Consumer Product Safety Commission summary is also available: <http://www.cpsc.gov/about/cpsia/phthalover.pdf> The latter document also states "Other phthalates including but not limited to di-n-propyl phthalate, diisobutyl phthalate, di-n-pentyl phthalate, dicyclohexyl & di(2-propylheptyl) phthalate may also contribute to the cumulative health risks of phthalates."

SECTION 16: OTHER INFORMATION

The information and recommendations contained herein are, to the best of Just In Time Chemical's knowledge and belief, accurate and reliable as of the date issued. Just In Time Chemical does not warrant or guarantee their accuracy or reliability, and Just In Time Chemical shall not be liable for any loss or damage arising out of the use thereof. The information and recommendations are offered for the user's consideration and examination, and it is the user's responsibility to satisfy itself that they are suitable and complete for its particular use. If buyer repackages this product, legal counsel should be consulted to insure proper health, safety and other necessary information is included on the container.

The Environmental Information included under Section 12 hereof as well as the Hazardous Materials Identification System (HMIS) and National Fire Protection Association (NFPA) ratings have been included by Just In Time Chemical, in order to provide additional health and hazard classification information. The ratings recommended are based upon the criteria supplied by the developers of these rating systems, together with Just In Time Chemical's interpretation of the available data.

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