Safety Data Sheet (SDS)
Revision 1 Review Date: 11-5-2014

1. Chemical Product and Company Identification

Product Name: DINP
Distributed By: HB Chemical
1665 Enterprise Parkway
Twinsburg Oh 44087
Phone - 330-920-8023

MSDS Prepared By (w Suppliers Input): HB Chemical
Chemical Name / Family: Di-isononyl Phthalate
EC No.: 249-079-5
REACH: 01-2119430798-28-0008
CAS No: 28553-12-0
Product Use: Plasticizer for Polymer
Uses advised against: Shall not be used as substance or in mixtures in concentrations greater than 0.1% by weight of the plasticized material, in toys and childcare articles with can be place in the mouth by children. (Commission Regulation (EC) No. 552/209 of 2009-06-22 amending Regulation EC no 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) as regards Annex XVII.

For emergency health, safety, and environmental information, calls 330-920-8023
For emergency transportation information, in the United States: call CHEMTREC at 800-424-9300

2. Hazard(s) Identification

Warning: A clear colorless, oily liquid, that is not normally irritating to eyes and skin. However, at processing temperatures, the product can emit fumes and vapors, which may cause irritation of the eyes and respiratory tract. Ingestion and prolonged contact should be avoided.

Eye Contact: No hazard expected in normal use.
Skin Contact: No hazard expected in normal use.
### Ingestion:
No hazard expected in normal use.

### Inhalation:
No hazard expected in normal use.

### HMIS Hazard Ratings:
Health - 1, Flammability - 1, Reactivity - 0

### Classification according to Regulation (EC) No 1272/2008 (CLP):
Labeling not required according to EU-CLP Ordinance.

### Classification as per Directive 67/548/EC:
Substance is not classified as dangerous according to Directive 67/548/EEC.

### Hazard pictograms/Signal word:
Not applicable.

### Other hazards:
The substance does not meet the criteria for PBT or vPvB substance.

---

### 3. Composition / Information on Ingredients

di-isononyl phthalate, 100%  
C.A.S. #  28553-12-0  
EC-NO 249-079-5  
REACH No. 01-2119430798-28-0000

---

### 4. First Aid Measures

**Inhalation:**
If symptoms develop, move victim away from exposure and into fresh air. Administer oxygen if breathing is difficult.

**Eyes:**
Flush eyes with water for 15 Min Call a physician if irritation develops.

**Skin:**
Wash skin with soap and water. If in contact with hot product, treat as a burn.

**Ingestion:**
Do not induce vomiting. Never give anything by mouth to unconscious person. Seek medical attention.

---

### 5. Fire-Fighting Measures

**Flash Point:**
228 °C, 292 °F  
Method DINH EN 22 719

**Lower Explosion limit:**
0.3% (V)  
(218 °C) Method DIN EN 1839

The temperature refers to the explosion container

**Suitable Extinguishing Media:**
Water Spray, Dry powder, Carbon Dioxide CO2, Foam.

**Unsuitable extinguishing media:**
High volume water jet.

**Special Fire Fighting Procedures:**
Move container from fire area if it can be done without risk
Use agents suitable for type of surrounding fire
Avoid inhalation of material or combustion by-products
Hazardous Combustion Products: This product will decompose under extreme temperatures forming oxides of carbons. Flammability Class (OSHA) III B

6. Accidental Release Measures

Steps to be taken in case material is spilled:
- Wear appropriate personal protective equipment.
- Stop leak if you can do it without risk
- Small Spill: Absorb with sand or other non-combustible material
- Collect spilled material in appropriate container for disposal
- Keep unnecessary people away, isolate hazard area and deny entry.

Environmental Disposal Information:
- Do not allow entrance in sewage water, drainage system, stretches of water, soil. Issue an immediate alarm report to the company environmental protection department if the product unintentionally leaves the area.

Waste Disposal:
- Reclaim or dispose of in accordance with local, state, and federal regulations

7. Handling and Storage:

Precautions to be taken in handling:
- Store tightly closed container in a cool, dry and well-ventilated area.
- Temperature class: T 2

Storage:
- Store and handling in accordance with all current regulations and standards. Store in a cool, dry, ventilated area. Keep containers closed when not in use. Do not store near extreme heat, open flame, or sources of ignition.

8. Exposure Controls / Personal Protection

Control parameters:
- Community workplace exposure limits were not established.

DNELs for workers:

<table>
<thead>
<tr>
<th>Exposure pattern</th>
<th>Route</th>
<th>DNEL</th>
<th>Most sensitive endpoint</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long-term - systemic effects</td>
<td>Dermal</td>
<td>366 mg/kg bw/day</td>
<td>repeated dose toxicity</td>
</tr>
<tr>
<td>Long-term - systemic effects</td>
<td>Inhalation</td>
<td>51.72 mg/m³</td>
<td>repeated dose toxicity</td>
</tr>
</tbody>
</table>
**Exposure Controls:**

No data available.

**Respiratory Protection:**

Under conditions of frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use. Any chemical cartridge respirator with organic vapor cartridge(s). Any chemical cartridge respirator with a full face piece and organic vapor cartridge(s). Any air-purifying respirator with a full face piece and organic vapor canister.

**Ventilation:**

Provide local exhaust or process enclosure ventilation system.

**Protective Gloves:**

Wear appropriate chemical resistant gloves.

**Eye Protection:**

Wear safety glasses or chemical goggles to prevent eye contact as necessary. Wear a face shield if so lashing is a problem.

**Skin and Body Protection:**

Wear appropriate chemical resistant clothing.

**Other Precautions:**

Wash with soap and water before eating, drinking or using toilet facilities. Launder contaminated clothing before reuse.

**Thermal hazards:**

The substance does not represent a thermal hazard, thus special consideration is not required.

**Environmental exposure controls:**

Avoid dispersal of spilled material and contact with soil, ground and surface water, drains and sewers.

**Decontamination Facilities:**

Eye bath, washing facilities (sinks / showers).
9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance:</td>
<td>colorless and clear liquid</td>
</tr>
<tr>
<td>Odour:</td>
<td>slight</td>
</tr>
<tr>
<td>Odour threshold:</td>
<td>no data available</td>
</tr>
<tr>
<td>pH:</td>
<td>no data available</td>
</tr>
<tr>
<td>Melting point/freezing point:</td>
<td>Pour point: &lt; -50°C (223 K at 101 325 Pa)</td>
</tr>
<tr>
<td>Initial boiling point and boiling range:</td>
<td>&gt;300°C at 1013 hPa</td>
</tr>
<tr>
<td>Flash point:</td>
<td>236°C at 1013 hPa (509 K at 101 325 Pa)</td>
</tr>
<tr>
<td>Evaporation rate:</td>
<td>no data available</td>
</tr>
<tr>
<td>Flammability (solid, gas):</td>
<td>non flammable</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits:</td>
<td>no data available</td>
</tr>
<tr>
<td>Vapour pressure:</td>
<td>0.00006 Pa at 20°C</td>
</tr>
<tr>
<td>Vapour density:</td>
<td>no data available</td>
</tr>
<tr>
<td>Relative density:</td>
<td>0.97 g/cm³ at 20°C</td>
</tr>
<tr>
<td>Solubility(ies):</td>
<td>water solubility: 0.6 μg/l at 20°C</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water:</td>
<td>Log Kow (Pow): 8.8 – 9.7 at 25°C</td>
</tr>
<tr>
<td>Auto-ignition temperature:</td>
<td>400°C at 1013 hPa (673 K at 101 325 Pa)</td>
</tr>
</tbody>
</table>

Other information: Stability in organic solvents and identity of relevant degradation product: Di-isononyl phthalate is stable in organic solvents.

10. Stability and Reactivity

Reactivity: Stable at normal temperatures and pressure.

Chemical stability: Stable under normal conditions.

Conditions to Avoid: Keep away from heat, and other sources of ignition.

Materials to Avoid: Strong oxidizing agents, Hydrogen peroxide

Hazardous Decomposition: None known.

11. Toxicological Information

Acute toxicity: The substance is not classified for acute toxicity according to Regulation (EC) No 1272/2008. 

Acute
toxicity: oral
Method: In principle, the methods described in OECD Guideline 401 were used
Species: rat (Sprague-Dawley) male/female
Routes of administration: oral; gavage
Results: LD50: > 10000 mg/kg bw (male/female)

Acutetoxicity: inhalation
Method: 43CFR163 (EPA proposed test guideline, 1978)
Species: rat (Sprague-Dawley) male/female
Routes of administration: inhalation; aerosol
Results: LC50 (4 h): > 4.4 mg/L air (nominal) (male/female) (aerosol) (read-across)

Acutetoxicity: dermal
Method: no guideline followed; the study was undertaken as a classical LD50 determination
Species: rabbit (New Zealand White) female
Routes of administration: coverage: occlusive
Results: LD50: > 3160 mg/kg bw (male/female) (read-across)

Skin corrosion/irritation:
The substance is not classified for skin corrosion/irritation according to Regulation (EC) No 1272/2008.

Human data
Method: A study consisting of a single 24-hour application using an occluded patch was conducted to evaluate the potential to cause irritation. Two evaluations were made; one 30 minutes after patch removal and the second at 24 hours post-patch removal. Two control were also tested; a positive irritant control and a negative control.
Species: human male/female
Results: The group mean score for irritation was 0.00 (read-across).

Animal data
Method: OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Coverage: semiocclusive (clipped)
Species: rabbit (New Zealand White)
Results: very mild skin irritant (Primary dermal irritation index (PDII): 0.08 ; mean; 24 and 72 hours; fully reversible within: 24 hours) (read-across)

Serious eye damage/irritation:
The substance is not classified for eye damage/irritation according to Regulation (EC) No 1272/2008.
Method: Draize Test
Species: rabbit (Vienna White)
Results: not irritating

Skin sensitization:
The substance is not classified for skin sensitization according to Regulation (EC) No 1272/2008.
Buehler test
Method: EU Method B.6 (Skin Sensitisation)
Species: guinea pig (Dunkin-Hartley) male
Routes of administration: Induction: epicutaneous, occlusive; Challenge: epicutaneous, occlusive
Results: not sensitizing (read-across)
**Respiratory sensitization:**
The substance is not classified for respiratory sensitization according to Regulation (EC) No 1272/2008.

*Method:* Topical application (and challenge) of test substances to mice followed by measurements of total serum IgE. In addition, auricular lymph nodes were harvested for measurement of IL-4 and IL-13 proteins and their corresponding messenger RNAs. Because skin absorption of high molecular weight phthalates is limited, liver weight increase, a measure of peroxisomal proliferation, was monitored to assure that internal dosing had been achieved.

*Species:* mouse (B6C3F1)

*Routes of administration:* Induction: dermal; Challenge: application to ear

*Results:* not sensitizing (read-across)

**Germ cell mutagenicity:**
The substance is not classified for germ cell mutagenicity according to Regulation (EC) No 1272/2008.

*Method:*
- Bacterial reverse mutation assay (e.g. Ames test) (genemutation)
- OECD Guideline 471 (Bacterial Reverse Mutation Assay)
- Species/strain: S. typhimurium TA1535, TA1537, TA98 and TA100 (met. act.: with and without), S. typhimurium TA 1538 (met. act.: with and without)

*Doses:* Initial assay: 0.5, 5, 50, 500 and 5000 micrograms/plate
- Repeat assay: 250, 500, 1000, 2500 and 5000 micrograms/plate

*Results:* negative for S. typhimurium TA 1535, TA 1537, TA 98 and TA 100 (all strains/cell types tested); met. act.: with and without; cytotoxicity: not determined (read-across)
- negative for S. typhimurium TA 1538 (strain/cell type); met. act.: with and without; cytotoxicity: not determined (read-across) Invitromammalianchromosome aberration test (chromosome aberration)

*Method:*
- OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
- Species/strain: Chinese hamster Ovary (CHO) (met. act.: with and without)

*Doses:* 0 (vehicle control), 5, 10, 20, 40, 80 and 160 micrograms/ml

*Results:* negative for Chinese hamster Ovary (CHO) (all strains/cell types tested); met. act.: with and without; cytotoxicity: yes (read-across)

Mammalian cell gene mutation assay (L5178 mouse lymphoma mammalian cell mutation assay and the Balb/3T3 cell transformation assay)

*Method:*
- OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
- Species/strain: mouse lymphoma L5178Y cells (met. act.: with and without)
- mammalian cell line, other: Balb/3T3 (met. act.: not applicable)

*Doses:*
- L5178Y Mouse Lymphoma Assay - 1.5, 3, 4, 5, 6, 8 ul/ml media
- Balb/3T3 Transformation Assay - 0.125, 0.398, 1.250, 2.50, 3.750 ul/ml media

*Results:* negative for mouse lymphoma L5178Y cells; met. act.: not applicable; cytotoxicity: yes (read-across)
- negative for mammalian cell line, other: Balb/3T3 (read-across)
**Carcinogenicity:**

The substance is not classified for carcinogenicity according to Regulation (EC) No 1272/2008. Findings are not regarded as relevant to humans.

*Method:* EPA OTS 798.3300 (Carcinogenicity)

*Species/strain:* rat (Fischer 344) male/female

*Routes of administration:* oral; feed

*Doses:*

ca. 29.2, 88.3, 358.7, and 733.2 mg/kg bw/d for males and ca. 36.4, 108.6, 442.2, and 855.4 mg/kg bw/d for females (actual ingested)

500, 1500, 6000, 12000 ppm (nominal in diet)

*Exposure:* 104 weeks for the test groups and 78 weeks for the recovery group (high dose level) (7 days per week)

*Results:*

NOAEL (carcinogenicity): 88.3 mg/kg bw/day (actual dose received) (male) (mononuclear cell leukemia (nominal dose: 1500ppm))

NOAEL (carcinogenicity): 108.6 mg/kg bw/day (actual dose received) (female) (mononuclear cell leukemia (nominal dose: 6000ppm))

NOAEL (toxicity): 88.3 mg/kg bw/day (actual dose received) (male) (liver and kidney toxicity)

NOAEL (toxicity): 108.6 mg/kg bw/day (actual dose received) (female) (liver and kidney toxicity)

**Reproductive toxicity:**

The substance is not classified for reproductive toxicity according to Regulation (EC) No 1272/2008. Effects


*Species:* rat (Sprague-Dawley) male/female

*Routes of administration:* oral; feed

*Doses:* 0.2, 0.4, 0.8 (nominal in diet (% DINP))

*Exposure:* Constant exposure up to about 10 weeks prior to mating, continuing throughout the mating period. Males were sacrificed after mating but treatment of the females continued throughout gestation and lactation until weaning of the offspring on postnatal day (PND) 21. (constant exposure 7 days/week)

*Results:*

NOAEL (P): ca. 500 mg/kg bw/day (nominal) (male/female) (body weight gain) (read-across)

NOAEL (F1): >= 200 - <= 260 mg/kg bw/day (nominal) (female) (bodyweight gain) (read-across)

NOAEL (P): 1000 mg/kg bw/day (nominal) (male/female) (Fertility - No adverse effects observed.) (read-across)

BMC05 (F1): >= 200 - <= 260 mg/kg bw/day (male/female) (The 95% lower confidence limit for a 5% reduction in the predicted body weights ranges from 0.16 to 0.21 % in the diet.) (read-across)

No statistically significant differences were observed in reproduction indices indicating a reproductive NOAEL of 0.8% (1000 mg/kg/day).
Developmental toxicity
Method: OECD Guideline 414 (Prenatal Developmental Toxicity Study)
Species: rat (Wistar)
Routes of administration: oral: gavage
Doses: 40, 200, 1000 mg/kg/d
Exposure: day 6 through 15 post coitum (p.c.) (daily)
Results:
NOEL (maternal toxicity): 200 mg/kg bw/day
NOAEL (teratogenicity): 1000 mg/kg bw/day

STOT: single exposure:
Substance is not classified for specific target organ toxicity after single exposure according to Regulation (EC) No. 1272/2008.

STOT: repeated exposure:
The substance is not classified for repeated dose toxicity according to Regulation (EC) No 1272/2008.

Repeated dose toxicity: oral
Method: OECD Guideline 452 (Chronic Toxicity Studies)
Species: rat (Fischer 344) male/female
Routes of administration: oral: feed
Doses:
ca. 29.2, 88.3, 358.7, and 733.2 mg/kg bw/d for males and ca. 36.4, 108.6, 442.2, and 885.4 mg/kg bw/d for females (actual ingested)
500, 1500, 6000, 12000 ppm (nominal in diet)
Exposure: 104 weeks for the test groups and 78 weeks for the recovery group (high dose level) (7 days per week)
Results:
NOAEL: ca. 88.3 mg/kg bw/day (actual dose received) (male) (liver and kidney toxicity, mononuclear cell leukemia)
NOAEL: ca. 108.6 mg/kg bw/day (actual dose received) (female) (liver and kidney toxicity, mononuclear cell leukemia)

Repeated dose toxicity: inhalation
Method: no data
Species: rat (Sprague-Dawley) male
Routes of administration: inhalation: aerosol (whole body)
Doses: 500 mg/m³ (nominal conc.)
Exposure: 5 consecutive days, 2 days recovery and another 5 days exposure (10 total exposures) (6 hours/ day)
Results: NOAEC: 500 mg/m³ air (male) (No systemic toxicity) (read-across)

Repeated dose toxicity: dermal
Method: A standard design for repeat dermal application toxicity study.
Species: rabbit (New Zealand White) male/female
Routes of administration: coverage: occlusive
Exposure: 24 hours per day, five days per week for six weeks (0nce a day, five days a week)
Results: NOAEL (systemic): ca. 500 mg/kg bw/day (nominal) (Mild dermal irritation, but no systemic effects on kidney or liver) (read-across)

Aspiration hazard:
The substance is not classified for aspiration hazard according to Regulation (EC) No 1272/2008.
**12. Ecological Information**

**Toxicity:**

The substance is not classified as hazardous to the aquatic environment according to Regulation (EC) No. 1272/2008.

**Short-term toxicity to fish**

- **LC₅₀ (96h)** for freshwater fish (*Brachydanio rerio* (new name: *Danio rerio*)), semi-static: > 102 mg/L test mat. (meas. (arithm. mean))

**Long-term toxicity to fish**

- **NOEC (284d)** for freshwater fish (*Oryzias latipes*), life cycle: reproduction, (sub)lethal effects, flow-through: >= 18.5 - <= 24.5 μg/g feed test mat. (meas. (not specified)) based on: survival, development, reproduction, carcinogenicity (read-across)

**Short-term toxicity to aquatic invertebrates**

- **EC₅₀ (24h)** for freshwater invertebrates (*Daphnia magna*), static: > 74 mg/L test mat. (meas. (geom. mean)) based on: mobility
- **EC₅₀ (48h)** for freshwater invertebrates (*Daphnia magna*), static: > 74 mg/L test mat. (meas. (geom. mean)) based on: mobility

**Long-term toxicity to aquatic invertebrates**

- **NOEC (21d)** for freshwater invertebrates (*Daphnia magna*), semi-static: > 101 mg/L test mat. (meas. (arithm. mean)) based on: reproduction

**Toxicity to algae/aquatic plants**

- **EC₅₀ (72h)** for freshwater algae (*Desmodesmus subspicatus* (reported as *Scenedesmus subspicatus*)), static: > 88 mg/L test mat. (meas. (geom. mean)) based on: growth rate
- **EC₅₀ (72h)** for freshwater algae (*Desmodesmus subspicatus* (reported as *Scenedesmus subspicatus*)), static: > 88 mg/L test mat. (meas. (geom. mean)) based on: biomass
- **NOEC (72h)** for freshwater algae (*Desmodesmus subspicatus* (reported as *Scenedesmus subspicatus*)), static: 88 mg/L test mat. (meas. (geom. mean)) based on: cell number

**Toxicity to sediment organisms**

- **NOEC (10d)** for freshwater sediment organisms (*Chironomus tentans*), static: 2680 mg/kg sediment dw test mat. (meas. (arithm. mean)) based on: mortality; growth (read-across)
- **LC₅₀ (10d)** for freshwater sediment organisms (*Chironomus tentans*), static: > 2680 mg/kg sediment dw test mat. (meas. (arithm. mean)) based on: mortality; growth (read-across)
- **NOEC (10d)** for freshwater sediment organisms (*Hyalella azteca*), static: 2900 mg/kg sediment dw test mat. (meas. (arithm. mean)) based on: mortality; growth (read-across)
- **LC₅₀ (10d)** for freshwater sediment organisms (*Hyalella azteca*), static: > 2900 mg/kg sediment dw test mat. (meas. (arithm. mean)) based on: mortality; growth (read-across)

**Toxicity to other aquatic organisms**

- **NOEC (21d)** for freshwater aquatic organisms (*Rana arvalis*), static: 858 mg/kg sediment dw test mat. (meas. (arithm. mean)) based on: frog-egg hatching (read-across)
- **NOEC (35d)** for freshwater aquatic organisms (*Rana arvalis*), static: 858 mg/kg sediment dw test mat. (meas. (arithm. mean)) based on: tadpole survival and growth (read-across)
Persistence and degradability:

Hydrolysis: Hydrolysis will not significantly contribute to the removal of DINP from the environment.

Half-life (DT50): $t_{1/2}$ (pH 7): 3.43 yr at 25 °C (estimated by calculation)
$t_{1/2}$ (pH 8): 125.19 d at 25 °C (estimated by calculation)

Phototransformation in air: Half-life (DT50): 5.5 h (estimated by calculation)

Phototransformation in water: Direct photolysis will not contribute to the degradation of DINP in the aquatic environment because it does not absorb light at wavelengths >290 nm, i.e., in the range that contribute to this process.

Phototransformation in soil: Direct photolysis will not contribute to the degradation of DINP in the terrestrial environment because it does not absorb light at wavelengths >290 nm, i.e., in the range that contribute to this process.

Biodegradability in water: Substance is readily biodegradable.

Ready biodegradability (EU Method C.4-C (Determination of the "Ready" Biodegradability - Carbon Dioxide Evolution Test)), activated sludge, domestic, non-adapted: 81% after 28 d (CO2 evolution)

Half-life (DT50) (simulation test followed sound scientific testing principles for determining biodegradability in sediment): 23 h in sediment (read-across from supporting substance)

Biodegradation in soil: Half-life: 51 days Degradation rate in water: $T_{1/2} = 10.3$ d (readily biodegradable) Degradation rate in air: $T_{1/2} = 51$ d (readily biodegradable) Degradation rate in sediment: $T_{1/2} = 51$ d

Degradation rate in air: $T_{1/2} = 5$ h
### Bio accumulative potential:
Substance does not bioaccumulate as has been demonstrated in a lab study with fish (Oncorhynchus mykiss) fed a DINP containing diet (BCF<3 L/kg). Substance has a SBSAF value of <1 which indicates a lack of dioaccumulation.

### Mobility in Soil:
log Koc :6 (estimated by calculation). Substance has the potential to sorb to organic matter.

### Results of PBT and vPvB assessment:
Based on the assessment substance is in not considered as PBT / vPvB.

### Other adverse effects:
No data available.

### 13. Disposal Considerations
Reclaim or Dispose of material in accordance with all a lie able local, state, and federal regulations.

### 14. Transport Information

<table>
<thead>
<tr>
<th>D.O.T. Shipping Name</th>
<th>Not restricted. Label: Product trade name with chemical description.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CANADA TRANSPORT HAZ.GOODS:</td>
<td>Not restricted.</td>
</tr>
<tr>
<td>AIR (IATA/ICAO):</td>
<td>Not restricted. Label: Product trade name with chemical description.</td>
</tr>
<tr>
<td>EUROPEAN TRANSPORTATION:</td>
<td>ADR/RID HAZ. CLASS: Not regulated.</td>
</tr>
<tr>
<td>US CUSTOMS: - HARMONIZED TARIFF CODE:</td>
<td>2917.33.00.50</td>
</tr>
</tbody>
</table>

### 15. Regulatory Information

**OSHA HAZARD COMMUNICATION STANDARD:** When used for its intended purposes, this material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

**Complies with the following national/regional chemical inventory requirements:** AICS, DSL, ENCS, IECSC, KECI, PICCS, TSCA

**EPCRA SECTION 302:** This material contains no extremely hazardous substances.

**SARA (311/312) REPORTABLE HAZARD CATEGORIES:** None.

**SARA (313) TOXIC RELEASE INVENTORY:** This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

**The following ingredients are cited on the lists below:**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS Number</th>
<th>List Citations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2- BENZENEDICARBOXYLIC ACID, DI-C8-10- BRANCHED ALKYL ESTERS, C9-RICH</td>
<td>28553-12-0</td>
<td>10, 13, 18, 19</td>
</tr>
</tbody>
</table>
Safety, health and environmental regulations/legislation specific for the substance or mixture:


Authorisations: not required

Restrictions on the manufacture, placing on the market and use of Di-‘isononyl’ phthalate (DINP) according to Regulation (EC) 1907/2006, Annex XVII:

1. Shall not be used as substances or in mixtures, in concentrations greater than 0,1 % by weight of the plasticised material, in toys and childcare articles which can be placed in the mouth by children.

2. Such toys and childcare articles containing these phthalates in a concentration greater than 0,1 % by weight of the plasticised material shall not be placed on the market.

3. The Commission shall re-evaluate, by 16 January 2010, the measures provided for in relation to this entry in the light of new scientific information on such substances and their substitutes, and if justified, these measures shall be modified accordingly.

4. For the purpose of this entry ‘childcare article’ shall mean any product intended to facilitate sleep, relaxation, hygiene, the feeding of children or sucking on the part of children.

Chemical safety assessment: A chemical safety assessment has been carried out for this substance.

16. Other Information

Abbreviations:

BCF: bioconcentration factor
BMC05: benchmark concentration for 5% response incidence
BSAF: biota-soil accumulation factor
DINP: Di-‘isononyl’ phthalate
DNEL: derived no effect level
EC₅₀: median effective concentration
LC₅₀: median lethal concentration
LD₅₀: median lethal dose
NOAEL: no observed adverse effect level
NOAEC: no observed adverse effect concentration
NOEC: no observed effect concentration
NOEL: no observed effect level
PBT: persistent, bioaccumulative, toxic chemical
PNEC: predicted no-effect concentration
vPvB: very persistent, very bioaccumulative chemical

Description of identified uses:
<table>
<thead>
<tr>
<th>Identified use</th>
<th>Process category (PROC)</th>
<th>Preparation Category (PC)</th>
<th>Sector of Use (SU)</th>
<th>Article category (AC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phlegmatiser (to dilute organic peroxides)</td>
<td>Mixing of solids and liquids in open or closed batch process.</td>
<td>dispersant</td>
<td>C20 - manufacturing: manufacture of chemicals and chemical products</td>
<td>C20 - manufacturing: manufacture of chemicals and chemical products</td>
</tr>
<tr>
<td></td>
<td></td>
<td>solvent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction Chemicals</td>
<td></td>
<td>dispersant</td>
<td>C20 - manufacturing: manufacture of chemicals and chemical products</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>solvent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manufacture of Coatings, Inks and Artist's Colours</td>
<td>Mixing of solids and liquids in open or closed batch process.</td>
<td>dispersant</td>
<td>C20.3 - manufacturing: manufacture of paints, varnishes and similar coatings, printing ink and mastics</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>solvent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preparation of Lubricants</td>
<td></td>
<td>lubricating agent or slip promoter</td>
<td>C20 - manufacturing: manufacture of chemicals and chemical products</td>
<td></td>
</tr>
</tbody>
</table>
The above information has been compiled from what we believe to be credible sources. To our knowledge the information is accurate and reliable, however, it is not guaranteed. Any recommendations issued by HB Chemical personnel or literature is derived from experience and by no means should be taken as fact or construed as a recommendation to violate of any law, regulation or patent. It is the user’s responsibility to determine the suitability of any HB supplied material in their application. The individual conditions of each customer are well outside of our control and we cannot be held liable for its functionality and use. Please contact our office should you need specific information beyond what is supplied above. As with all Chemical usage safety precautions beyond the stated are highly recommended. Information for this SDS supplied by Evonik.