Sax’s
Dangerous
Properties of
Industrial Materials

Eighth Edition

Volume 1

RICHARD J. LEWIS, SR.
2-CYCLOPENTYL-4,6-DINITROPHENOL CQB250

TOXICITY DATA with REFERENCE
scu-mus TDLo:160 mg/kg/43W-I:NEO JNCIAM 2,99,41

SAFETY PROFILE: Questionable carcinogen with experimental neoplastic data. When heated to decomposition it emits acrid smoke and irritating fumes.

CPY750 CAS:7099-43-6 HR:3
5:6-CYCLOPENTENO-1:2-BENZANTHRACENE
mf: C27H14 mw: 270.39
SYN: 2,3-DIHYDRO-1H-BENZO(2)CYCLOPENT(1)ANTHRACENE

TOXICITY DATA with REFERENCE
skn-mus TDLo:480 mg/kg/20W-I:ETA PRLBA4 106,148,32

SAFETY PROFILE: Questionable carcinogen with experimental tumorigenic data. When heated to decomposition it emits acrid smoke and irritating fumes.

CPZ125 CAS:5870-29-1 HR:3
CYCLOPENTOLATE HYDROCHLORIDE
mf: C17H20N3Cl mw: 327.89
SYN: CYCLOGYL O,9-DIMETHYLAMINOETHYL (1-HYDROXYCYCLOPENTYL)PHENYLACETATE HYDROCHLORIDE O 2-DIMETHYLAMINOETHYL 1-HYDROXY-o-PHENYLCYCLOPENTANEACETATE HYDROCHLORIDE

TOXICITY DATA with REFERENCE
scu-chd TDLo:40 µg/kg/CNS AROPAW 87,634,72
orl-mus LD50:960 mg/kg NIKDN 6,314,52
ipr-mus LD50:314 mg/kg JPETAB 106,141,52
ivn-mus LD50:84 mg/kg JPETAB 106,141,52

SAFETY PROFILE: Poison by intravenous and intraperitoneal routes. Moderately toxic by ingestion. Human systemic effects by subcutaneous route: convulsions. When heated to decomposition it emits toxic fumes of NOx and HCl. See also ESTERS.

CQA000 CAS:1003-03-8 HR:1
CYCLOPENTYLAMINE
mf: C5H11N mw: 85.15
PROP: Flash p: 55.4°F.

SAFETY PROFILE: A dangerous fire hazard when exposed to heat or flame. When heated to decomposition it emits toxic fumes of NOx. See also AMINES.

CQB250 CAS:40202-39-9 HR:3
2-CYCLOPENTYL-4,6-DINITROPHENOL
mf: C11H12N2O5 mw: 252.25
SYN: DINITROCYCLOPENTYLPHENOL

TOXICITY DATA with REFERENCE
ivn-dog LDLo:10 mg/kg AIPTAK 50,20,35
ivn-pgn LDLo:5 mg/kg AIPTAK 50,20,35
Mildly toxic by ingestion. An eye irritant. When heated to decomposition it emits toxic fumes of NOx.

**BCP650**  
**CAS:** 53-89-4  
**HR:** 3  
**BENZOMETAN**  
**mf:** C22H32N2O  
**mw:** 347.50  
**PROP:** Crystals from ethanol. Decomp 181-183°.

**SYNS:** BENZOPERILONE (ITALIAN)  
BENZOPERILONE  
BIENZIPERYLON  
4-BENZYL-1-(1-METHYL-4-PIPERIDYL)-3-PHENYL-3-PYRAZOLIN-5-ONE  
1,2-DIHYDRO-2-(1-METHYL-4-PIPERIDINYL)-3-PHENYL-4-(PHENYL METHYL)-3-HI-PYRAZOL-3-ONE (9CI)  
HUMEDIL  
(1-METHYL-PIPERIDIL-4)-3-FENIL-4-BENZIL-PYRAZOLINE-5 (ITALIAN)  
PPBP  
REUSILONIL  
TELOX

**TOXICITY DATA with REFERENCE**  
**orl-rat** LD50: 2700 mg/kg  
**BCFAAI** 102,602,63

**SAFETY PROFILE:** Poison by in intravenous route. Moderately toxic by ingestion and subcutaneous routes. When heated to decomposition it emits toxic fumes of NOx.

**BCP685**  
**CAS:** 3811-10-7  
**HR:** 3  
**BENZOMETHAMINE BROMIDE**  
**mf:** C22H33N2O3Br  
**mw:** 435.46  
**SYNS:**  
(2-HYDROXY-3PHENYLACETYL)-N-METHYL ETHANAMINUM BROMIDE (9CI)  
DIETHYL METHYL (2-(N-METHYLBENZILAMIDOETHYLAMMONIUM BROMIDE  
MC 3199

**TOXICITY DATA with REFERENCE**  
**orl-mus** LD50: 2700 mg/kg  
**JPETAB** 114,54,55

**SAFETY PROFILE:** Poison by intra peritoneal route. Moderately toxic by ingestion. When heated to decomposition it emits toxic fumes of CN- and NOx.

**BCQ000**  
**CAS:** 196-79-2  
**HR:** 3  
**BENZONIC C(1,2,3)QUINOLINE**  
**mf:** C12H10N  
**mw:** 279.35  
**SYN:** PYRID(3',2':5,6)CHRYSENE

**TOXICITY DATA with REFERENCE**  
**scu-mus** TDLo: 72 mg/kg/9W-I: ETA COREAF 252,171.61

**SAFETY PROFILE:** Questionable carcinogen with experimental tumorigenic data. When heated to decomposition it emits toxic fumes such as NOx.
**DRP875**  
N,N-DIMETHYL-2-(p-(1,2-DIPHENYL-1-BUTENYL)PHENOXY)ETHYLAMINE CITRATE  
mf: C₃₈H₃₈NO•C₆H₈O₇  mw: 563.70  

**TOXICITY DATA with REFERENCE**  
oral-rat LD₅₀: 1550 mg/kg  IYKEDH 12,933,81  
intraperitoneal-rat LD₅₀: 660 mg/kg  IYKEDH 12,933,81  
intraperitoneal-mus LD₅₀: 76 mg/kg  IYKEDH 12,933,81  
oral-mus LD₅₀: 6500 mg/kg  IYKEDH 12,933,81  
intraperitoneal-mus LD₅₀: 218 mg/kg  IYKEDH 12,933,81  
intraperitoneal-mus LD₅₀: 95 mg/kg  IYKEDH 12,933,81  

**SAFETY PROFILE:** Poison by intravenous and intraperitoneal routes. Moderately toxic by ingestion. When heated to decomposition it emits toxic fumes of NOₓ. See also AMINES.

---

**DRQ000**  
CAS: 13865-57-1  
N,N-DIMETHYL-4-(DIPHENYLAMINO)ANILINE  
mf: C₂₇H₂₃N mw: 287.43  

**SYNS:** 4-DIMETHYLAMINOTRIPHENYLMETHANE 4-DIMETHYLAMINOTRIPHENYLMETHAN (GERMAN)  

**TOXICITY DATA with REFERENCE**  
skin-rat LD₅₀: 1620 mg/kg/12W  I:ETA NATWAY 42,215,55  

**SAFETY PROFILE:** Questionable carcinogen with experimental tumorigenic data. When heated to decomposition it emits toxic fumes of NOₓ. See also NITROSAMINES.

---

**DRR000**  
CAS: 26419-73-8  
2,4-DIMETHYL-1,3-DITHIOLANE-2-CARBOXALDEHYDE O-(METHYLCARBAZOM)OXIME  
mf: C₄H₅NO₃S₂  mw: 234.36  

**SYNS:** 2,4-DIMETHYL-1,3-DITHIOLANE-2-CARBOXALDEHYDEO-(METHYLAMINOCARBONYL)OXIME O 2,4-DIMETHYL-2-FORMYL-1,3-DITHIOLANE OXIME METHYL CARBAZATE O ENT 27,696 O MBR 6168 O J3 MBR 6168 O TIRPATE  

**TOXICITY DATA with REFERENCE**  
oral-rat LD₅₀: 1 mg/kg  WRPCA29 1,119,70  
skin-rat LD₅₀: 300 mg/kg  GUCHAZ 5,213,73  

**CONSENSUS REPORTS:** EPA Extremely Hazardous Substances List.

**SAFETY PROFILE:** Poison by ingestion and skin contact. A pesticide. When heated to decomposition it emits very toxic fumes of NOₓ and SOₓ. See also CARBAMATES and ALDEHYDES.
SAFETY PROFILE: Moderately toxic by ingestion and inhalation. A corrosive irritant to skin, eyes, and mucous membranes. Explosive reaction with methylimagnesium chloride. Explosive reaction with pentaerythritol heat. Reacts with water or steam to produce toxic and corrosive fumes. When heated to decomposition it emits highly toxic fumes of PO₃, SO₃, and Cl⁻.

**TOXICITY DATA**

*HCl*: 3100 mg/m³/10M

**SHAPEL**: TWA 2.5 mg(F)/m³

**CGIH TLV**: TWA 2.5 mg(F)/m³

**NIOSH REL**: TWA 2.5 mg(F)/m³

AFETY PROFILE: Moderately toxic by inhalation. When heated to decomposition it emits very toxic fumes of Br⁻, F⁻, PO₃, and SO₃. See also BROMIDES, FLUORIDES, and THIOPHOSPHORYL CHLORIDE.

**CLASSIFICATION**

Flammable Liquid; Label: Flammable Liquid.

SAFETY PROFILE: Poison by inhalation. Moderately toxic by ingestion. A skin and severe eye irritant. A very dangerous fire hazard when exposed to heat or flame. Explosive in the form of vapor when exposed to heat or flame. Can react vigorously with oxidizing materials. To fight fire, use CO₂, dry chemical. When heated to decomposition it emits highly toxic fumes of SO₃ and may explode. See also SULFIDES.
PIH75  CAS:83-26-1  HR: 3  
**PINDONE**  
DOT: UN 2472  
ASF: C_{14}H_{14}O_{3}  mw: 230.28  
SINS: CHEMRA 2-(2,2-DIETHYL-1-OXOPROPY)-1H-INDEN-1-ION (Dutch) O PIVACIN O PIVAL O PIVALDIONE (Italian) O PIVALDIONE (French) O 2-PIVALOYL-INDAN-1,3-DION. O PIVACIN (English) O PIVAL-DIONE (Dutch) O 2-PIVALOYL-INDAN-1,3-DION (German)  
**TOXICITY DATA with REFERENCE**  
etr-rat LD50:280 mg/kg  PHARAT 14,845,76  
Ko-raLD50:50 mg/kg  YXYUAS 31,1385,80  
pi-rat LD50:50 mg/kg  GUCHIA 6,415,73  
pi-dog LDLo:5 mg/kg  APTOA 42,81,78  
pi-br LD50:150 mg/kg  BIDPA 71,71,76  
2-dom LDLo:75 mg/kg  AWLRAO 5,135,78  
CONSENSUS REPORTS: Reported in EPA TSCA Inventory.  
OSHAPEL: TWA 0.1 mg/m³  
ACGIHTLV: TWA 0.1 mg/m³  
DOT Classification: Poison B; Label: Poison; Poison B; Label: St. Andrews Cross.  
SAFETY PROFILE: Poison by ingestion, intravenous, and parenteral routes. Causes reduced blood clotting which leads to hemorrhaging. Used as an anticoagulant and rodenticide. When heated to decomposition it emits acrid smoke and irritating fumes. See also WARFARIN.  
PIH1400  CAS:8000-26-8  HR: 1  
**PINE NEEDLE OIL, DWARF**  
PROP: From steam distillation of needles of Pinus mugo turra var. pumilio (Haenke) Zerani (Fam. Pinaceae) (FCTXA 14,653,76). Colorless to yellow liquid; pleasant odor and a bitter, pungent taste. D: 0.853-0.871, refr index: 1.475 @ 20°.  
SYNS: DWARFPINE NEEDLE OIL O KNEE PINE OIL  
SYNS: LATSCHELNKIEFERQ 0 OIL of MOUNTAIN PINE O PINUS MON-TANA OIL O PINUS PUMILIO OIL.  
**TOXICITY DATA with REFERENCE**  
201-hmn 12%  FCTXA 14,843,76  
Dor-rat LD50:6880 mg/kg  PHARAT 14,435,59  
CONSENSUS REPORTS: Reported in EPA TSCA Inventory.  
SAFETY PROFILE: Mildly toxic by ingestion. A human skin irritant. When heated to decomposition it emits acrid smoke and irritating fumes.  
PIH500  CAS:8000-26-8  HR: 1  
**PINE NEEDLE OIL, SCOTCH**  
PROP: Volatile oil from steam distillation of Pinus sylvestris L. (Fam. Pinaceae) constituted of dipentene, pinene, sylvestrene, cadinene and bornyl acetate. Yellow liquid; penetrating odor. D: 0.895-0.902, flash p: 172°F (CC), d: 0.86, refr index: 1.473 @ 20°. Sol in fixed oils, mineral oil; stily sol in propylene glycol; insol in glycerin.  
SYNS: KIEFERNADEL OEL (GERMAN) O SCOTCH PINE NEEDLE OIL.  
**TOXICITY DATA with REFERENCE**  
201-hmn 12%  FCTXA 14,843,76  
Dor-rat LD50:6880 mg/kg  PHARAT 14,435,59  
CONSENSUS REPORTS: Reported in EPA TSCA Inventory.  
SAFETY PROFILE: Mildly toxic by ingestion. A weak allergen and a mild irritant. Flammable when exposed to heat or flame; can react vigorously with oxidizing materials. To fight fire, use foam, CO₂, dry chemical. When heated to decomposition it emits acrid smoke and irritating fumes. See also individual components.
TOXICITY DATA with REFERENCE

**POH750**
CAS: 127-91-3  HR: 1

**Pseudopinene**

<table>
<thead>
<tr>
<th>Prop:</th>
<th>Colorless liquid; pine odor.</th>
<th>D: 0.864, refr index: 1.477, flash p: 89°F. Sol in fixed oils; insol in water, propylene glycol, glycerin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syns:</td>
<td>6,6-DIMETHYL-2-METHYLENEBICYCLO(3.1.1)HEPTANE</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2-terpin-8-ene, 8-terpin-2-ene</td>
<td></td>
</tr>
</tbody>
</table>

**TOXICITY DATA with REFERENCE**

- rat TDLo: 100 mg/kg (female 7-11 post): REP
  CYLPDN 9,445,88
- rat TDLo: 13500 Jtg/kg (female 7-90 post): REP
  CYLPDN 9,445,88
- rat LD50: 130 mg/kg CYLPDN 9,445,88
- mus LD50: 316 mg/kg CYLPDN 9,445,88
- mus LD50: 423 mg/kg CYLPDN 9,445,88

**SAFETY PROFILE:** Poison by ingestion and intraperitoneal routes. Moderately toxic by intravenous route. An experimental teratogen. Experimental reproductive effects. When heated to decomposition it emits acrid smoke and irritating fumes.

**POH800**

**Psidium Guajava Linn., extract excluding roots**

<table>
<thead>
<tr>
<th>Prop:</th>
<th>Indian plant belonging to the family Myrtaceae</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syn:</td>
<td>Ambrod, extract</td>
</tr>
</tbody>
</table>

**TOXICITY DATA with REFERENCE**

- ipr-rat LD50: 500 mg/kg FCTXAV 16,859,78
- ivn-rat LD50: 4700 mg/kg FCTXAV 16,859,78

**CONSENSUS REPORTS:** Reported in EPA TSCA Inventory.

**SAFETY PROFILE:** Mildly toxic by ingestion. A skin irritant. Flammable liquid. When heated to decomposition it emits acrid smoke and irritating fumes.

**POI550**

**Ptt 119**

<table>
<thead>
<tr>
<th>Mf:</th>
<th>C_{29}H_{39}Cl_{2}FN_{4}S·ClH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syn:</td>
<td>1-METHIONINE,N-(N-(3-(p-FLUOROPHENYL)-1-ANANYL)-3-(m-BIS(2-CHLOROETHYL)AMINO)PHENYL)-1 ALANYL)-1-ALANYL)-ETHYL ESTER, HYDROCHLORIDE</td>
</tr>
</tbody>
</table>

**TOXICITY DATA with REFERENCE**

- ipr-rat LD50: 9200 µg/kg FRPSAX 38,205,83
- ivn-rat LD50: 9300 µg/kg FRPSAX 38,205,83
- ipr-mus LD50: 21 mg/kg FRPSAX 38,205,83
- ivn-mus LD50: 17 mg/kg FRPSAX 38,205,83

**SAFETY PROFILE:** Poison by intravenous and intraperitoneal routes. When heated to decomposition it emits toxic fumes of F\(^{-}\), SO\(_2\), NO\(_x\), and Cl\(^{-}\). See also ESTERS.

**POI575**

**Puercaria Phaseoloides (Roxb.) Benth., extract excluding roots**

| Prop: | Indian plant belonging to the family Fabaceae |

**TOXICITY DATA with REFERENCE**

- orl-rat TDLo: 150 mg/kg (female 12-14D post): REP
  IJEB6 22,487,84
- orl-mus LD50: 825 mg/kg IJEB6 22,487,84

**SAFETY PROFILE:** Moderately toxic by intraperitoneal route. Experimental reproductive effects. When heated to decomposition it emits acrid smoke and irritating fumes.

**POI600**

**Puffer Poison, Hydrochloride**

| Prop: | Extracted from liver, gonads, stomach and intestines of Sphoeroides pardalis, Sphoeroides vermicularis porphyreus and Sphoeroides vermicularis radiatus (JPETAB 122,247,57). |