

# R

**RAF100**      **CAS: 22248-79-9**      **HR: 2**  
**RABOND**

mf:  $C_{10}H_9Cl_4O_4P$       mw: 365.96

**PROP:** Mp 97–98°. Solubility in water: 11 ppm, in xylene: <15%, 40–50% in chloroform at room temp.

**SYNS:** APPEX □ (Z)-2-CHLORO-1-(2,4,5-TRICHLOROPHENYL) VINYL DIMETHYL PHOSPHATE □ CVMP □ DEBANTIC □ DIETREEN □ DUST M □ ENT 25,841 □ GARDICIDE □ GARD-ONA □ GORDONA □ (Z)-PHOSPHORIC ACID-2-CHLORO-1-(2,4,5-TRICHLOROPHENYL)ETHENYL DIMETHYL ESTER □ RABON □ ROL □ SD 8447 □ STIROFOS □ STIRO-PHOS □ 2,4,5-TRICHLORO- $\alpha$ -(CHLOROMETHYLENE)BENZYL PHOSPHATE ESTER □ VINFOS □ VINYLPHOSPHATE

**TOXICITY DATA with REFERENCE:**

mnt-mus-ipr 200 mg/kg/7D-I      MUREAV 117,329,83  
mnt-mus-orl 720 mg/kg/24H-C      MUREAV 117,329,83  
orl-rat LD50:480 mg/kg      PSSCBG 3,517,72  
ihl-rat LC:>854 mg/m<sup>3</sup>      GTPZAB 31(1),47,87  
skn-rat LD50:1500 mg/kg      PSSCBG 3,517,72  
orl-mus LD50:1379 mg/kg      CHYCDW 21,65,87  
ihl-mus LC:>290 mg/m<sup>3</sup>/4H      GTPZAB 19(4),50,75

**CONSENSUS REPORTS:** IARC Cancer Review: Group 3 IMEMDT 7,56,87; Animal Limited Evidence IMEMDT 30,197,83

**SAFETY PROFILE:** Moderately toxic by ingestion. Questionable carcinogen. Mutation data reported. Used as an insecticide. A cholinesterase inhibitor. When heated to decomposition it emits toxic fumes of Cl<sup>-</sup> and PO<sub>x</sub>. See also PARATHION.

**RAF300**      **HR: 3**  
**RACEMETHORPHAN HYDROBROMIDE**

mf:  $C_{18}H_{25}NO \cdot BrH$       mw: 352.61

**PROP:** Crystals. Mp: 124–126°.

**SYNS:** (±)-3-METHOXY-17-METHYLMORPHINAN HYDROBROMIDE □ RO 1-5470

**TOXICITY DATA with REFERENCE:**

orl-rat LD50:235 mg/kg      JPETAB 109,189,53  
scu-rat LD50:165 mg/kg      JPETAB 109,189,53  
orl-mus LD50:175 mg/kg      JPETAB 109,189,53  
scu-mus LD50:160 mg/kg      JPETAB 109,189,53  
ivn-mus LD50:31 mg/kg      JPETAB 109,189,53  
ivn-rbt LD50:16,700 µg/kg      JPETAB 109,189,53

**SAFETY PROFILE:** Poison by ingestion, subcutaneous, and intravenous routes. When heated to decomposition it emits toxic fumes of NO<sub>x</sub> and HBr.

**RAF400**      **CAS: 23599-75-9**      **HR: D**  
**RACEMIC DIHYDROZEATIN**

mf:  $C_{10}H_{15}N_5O$       mw: 221.30

**SYNS:** 1-BUTANOL, 2-METHYL-4-(1H-PURIN-6-YLAMINO)- □ 1-BUTANOL, 2-METHYL-4-(PURIN-6-YLAMINO)- □ DIHYDRO-ZEATIN □ (+-)-DIHYDROZEATIN □ 2-METHYL-4-(1H-PURIN-6-YLAMINO)-1-BUTANOL

**TOXICITY DATA with REFERENCE:**

uns-hmn-leu 100 nmol/L      EXPEAM 32,29,1976

**SAFETY PROFILE:** Mutation data reported. When heated to decomposition it emits toxic vapors of NO<sub>x</sub>.

**RAG300**      **CAS: 3808-42-2**      **HR: 3**  
**RACEMOMYCIN A**

mf:  $C_{19}H_{34}N_8O_8$       mw: 502.61

**SYNS:** ANTIBIOTIC S 15-1A □ 2-((2-DEOXY-2-(3,6-DIAMINOHEXANAMIDO)- $\alpha$ -D-GLUCOPYRANOSYL)AMINO)-3,3a,5,6,7,7a-HEXAHYDRO-7-HYDROXY-4H-IMIDAZO(4,5-C)PYRIDIN-4-ONE-6'-CARBAMATE □ STREPTOTHRICIN F □ STREPTOTHRICIN VI □ YAZUMYCIN A

**TOXICITY DATA with REFERENCE:**

ipr-mus LD50:250 mg/kg      85GDA2 1,250,80  
scu-mus LD50:1370 µg/kg      ANTBAL 14,48,69  
ivn-mus LD50:150 mg/kg      85GDA2 1,285,80

**SAFETY PROFILE:** Poison by subcutaneous, intravenous, and intraperitoneal routes. When heated to decomposition it emits toxic fumes of NO<sub>x</sub>. See also CARBAMATES.

**RAG400**      **CAS: 3484-68-2**      **HR: 3**  
**RACEMOMYCIN E**

mf:  $C_{43}H_{82}N_{16}O_{12}$       mw: 1015.41

**SYNS:** A 53930C □ 4H-IMIDAZO(4,5-C)PYRIDIN-4-ONE, 2-((2-(3-AMINO-6-(3-AMINO-6-(3-AMINO-6-(3-AMINO-6-(3,6-DIAMINO-HEXANAMIDO)HEXANAMIDO)HEXANAMIDO)HEXANAMIDO)HEXANAMIDO)-2-DEOXY-BET A-D-GULOPYRAN-OS-YL)AMINO)-3,3A,5,6,7,7A-HEXAHYDRO-7-HYDROXY-, 6'-CARBAMATE □ STREPTOTHRICIN B

**TOXICITY DATA with REFERENCE:**

scu-mus LD50:55,800 mg/kg      ANTBAL 14,48,1969  
ivn-mus LDLo:208 µg/kg      JANTAJ 3,232,1950

**SAFETY PROFILE:** A poison by subcutaneous and intravenous routes. When heated to decomposition it emits toxic vapors of NO<sub>x</sub>.

**RAQ000**      **HR: D**  
**RADIATION**

**PROP:** Electromagnetic radiation (also called *radiant energy*) is emitted from matter in the form of photons (quanta), each having an associated electromagnetic wave with a frequency ( $\nu$ ) and wavelength ( $\lambda$ ). The various forms of radiant energy are characterized by their wavelength, and together they comprise the electromagnetic spectrum, the components of which are as follows: (1) cosmic gamma rays, (2) gamma rays from radioactive disintegration of

atomic nuclei, (3) x-rays, (4) ultraviolet rays, (5) visible light rays, (6) infrared rays, (7) microwave rays, and (8) radio (Hertzian) and electric rays. Radiation having the shortest wavelength is the most penetrating. Quanta are not electrically charged and have no mass, their velocity of propagation is the same, and all display the properties characteristic of light, having a dual nature (wave-like and corpuscular). Infrared radiation is that part of the electromagnetic spectrum between visible light and the microwave region, i.e.,  $7000 \text{ \AA} - 2.2 \times 10^6 \text{ \AA}$ . All objects at a temperature greater than 0 K emit IR radiation to cooler surfaces, and the hotter the emitter the shorter is the emitted IR wavelength. When the emitter is hot enough, visible ( $4000 \text{ \AA} - 7000 \text{ \AA}$ ), and even UV ( $100 \text{ \AA} - 4000 \text{ \AA}$ ), radiation are also emitted.

**SAFETY PROFILE:** The main physical effect of exposure to infrared radiation is heating. This is also true for biological tissue. In the case of the eye, there is very sensitive tissue available for exposure to IR radiation. "Near IR" ( $7800 \text{ \AA} - 14,000 \text{ \AA}$ ) is blamed for many eye cataracts. The eyes may be easily protected by the wearing of goggles. Ultraviolet (UV) radiation is that part of the EM spectrum between  $100 \text{ \AA}$  and  $4000 \text{ \AA}$ . The UV-A band of UV extends from  $3150 \text{ \AA} - 4000 \text{ \AA}$  and is called "black light" or "near UV." This band can cause thermal skin burns, increased skin pigmentation, and photoreactions. It does not, in general, cause eye injury. From  $2800 \text{ \AA}$  to  $3150 \text{ \AA}$  is "mid-UV," or erythral region. This band produces photokeratitis and possibly skin cancer. The UV band from  $1000 \text{ \AA} - 2800 \text{ \AA}$  is the UV-C band. It is known as "far UV" or "short UV." This band of UV is germicidal and viricidal, and destroys molds and yeasts as well. There is a subregion of UV-C from  $1700 \text{ \AA} - 2200 \text{ \AA}$  that produces ozone. The whole UV region can damage human skin and eyes. In eyes, it can cause blepharitis, conjunctivitis, keratitis, and keratoconjunctivitis. Skin exposure to solar UV can cause erythema and tanning; chronic skin exposure to solar UV leads to tanning, elastosis (dry, leathery, deeply wrinkled skin), and an incidence of non-melanoma skin cancer.

Type of radiation	Wavelength, $\text{\AA}$
cosmic	0.0005–0.005
gamma	0.005–1.4
X	0.1–100
UV	100–4000
visible	4000–7000
infrared	7000–2,000,000

## RAQ010 RADIATION, IONIZING

HR: 3

**PROP:** Extremely-short-wavelength, highly energetic, penetrating rays of the following types: (a) gamma rays emitted by radioactive elements and radioisotopes (decay of atomic nuclei); (b) x-rays generated by sudden stoppage of fast-moving electrons; (c) subatomic charged particles (electrons, protons, deuterons) when accelerated in a

cyclotron or betatron. The term is restricted to electromagnetic radiation at least as energetic as x-rays, and to charged particles of similar energies. Neutrons also may induce ionization. Such radiation is strong enough to remove electrons from any atoms in its path, leading to the formation of free radicals.

**SAFETY PROFILE:** These short-lived but highly reactive particles initiate decomposition of many organic compounds. Thus, ionizing radiation can cause mutations in DNA and in cell nuclei; adversely affect protein and amino acid mechanisms; impair or destroy body tissue; and attack bone marrow, the source of red blood cells. Exposure to ionizing radiation for even a short period is highly dangerous, and for an extended period may be lethal. The study of the chemical effects of such radiation is called radiation chemistry or (in the case of body reactions) radiation biochemistry.

## RAV000 RADIUM

HR: 3

af: Ra aw: 226.025

**PROP:** A radioactive alkaline earth metal. Brilliant white, tarnishes in air. Decomp in water. Mp:  $700^\circ$ , bp:  $1737^\circ$ , d: 5.5.

**SAFETY PROFILE:** A highly radiotoxic element. 1 g produces  $3.7 \times 10^{10}$  disintegrations per second. Inhalation, ingestion, or bodily exposure can lead to lung cancer, bone cancer, osteitis, skin damage, and blood dyscrasias. A common air contaminant. Radium replaces calcium in the bone structure and is a source of irradiation to the blood-forming organs. The ingestion of luminous dial paint prepared from radium caused death in many of the early dial painters before the hazard was fully understood. The data on these workers have been the source of many of the radiation precautions and the maximum permissible levels for internal emitters that are now accepted.  $^{226}\text{Ra}$  is the parent of radon and the precautions described under  $^{222}\text{Rn}$  should be followed.  $^{228}\text{Ra}$  is a member of the thorium series. It was a common constituent of luminous paints, and, while its low beta energy was not a hazard, its daughters in the series may have been a causative agent in the deaths of the radium dial painters following World War I. It is metabolized in the same way as any other radium isotope and it is a source of thorium. The precautions recommended under  $^{220}\text{Rn}$  should be followed. Highly dangerous; must be kept heavily shielded and stored away from possible dissemination by explosion, flood, etc.

Radiation Hazard: Natural isotope  $^{223}\text{Ra}$  (Actinium-X, Actinium Series),  $T_{1/2} = 11.4$  days, decays to radioactive  $^{219}\text{Rn}$  by alphas of 5.5–5.7 MeV. Natural isotope  $^{224}\text{Ra}$  (Thorium-X, Thorium Series),  $T_{1/2} = 3.6$  days, decays to radioactive  $^{220}\text{Rn}$  by alphas of 5.7 MeV. Natural isotope  $^{226}\text{Ra}$  (Uranium Series),  $T_{1/2} = 1600$  years, decays to radioactive  $^{222}\text{Rn}$  by alphas of 4.8 MeV. Natural isotope  $^{228}\text{Ra}$  (Mesothorium = 1, Thorium Series),  $T_{1/2} = 6.7$  years, decays to radioactive  $^{228}\text{Ac}$  by betas of 0.05 MeV.

## RBA000 RADON

CAS: 10043-92-2

HR: 3

af: Rn aw: 222

**PROP:** Colorless, odorless, inert gas; very dense. Bp:  $-62^{\circ}$ , d (gas @ 1 atm and  $0^{\circ}$ ): 9.73 g/L, (liquid @ bp): 4.4.

**CONSENSUS REPORTS:** NTP 10th Report on Carcinogens.

**SAFETY PROFILE:** A carcinogen. A common air contaminant. Radon is a noble gas and thus is relatively unreactive. Radiation Hazard: Natural isotope  $^{220}\text{Rn}$  (Thoron, Thorium Series),  $T_{1/2} = 55$  seconds, decays to radioactive  $^{216}\text{Po}$  by alphas of 6.3 MeV. Natural isotope  $^{222}\text{Rn}$  (Uranium Series),  $T_{1/2} = 3.8$  days, decays to radioactive  $^{218}\text{Po}$  by alphas of 5.5 MeV. The permissible levels are given for  $^{222}\text{Rn}$  in equilibrium with its daughters. The chief hazard from this isotope is inhalation of the gaseous element and its solid daughters, which are collected on the normal dust of the air. This material is deposited in the lungs and has been considered to be a major causative agent in the high incidence of lung cancer found in uranium miners. Radon and its daughters build up to an equilibrium value in about a month from radium compounds, while the build-up from uranium compounds is negligible. Good ventilation of areas where radium is handled or stored is recommended to prevent accumulation of hazardous concentration of Rn and its daughters. Accumulation of radon in homes has been implicated in increased incidence of lung cancers. This accumulation is found in well-insulated buildings located over land that has concentrations of uranium.

**RBA100 CAS: 512-69-6 HR: D**  
**d-RAFFINOSE**

mf:  $\text{C}_{18}\text{H}_{32}\text{O}_{16}$  mw: 504.50

**PROP:** Mp.  $80^{\circ}$ , d:  $1.4700 \text{ g/cm}^3$ .

**SYNS:**  $\alpha$ -d-GLUCOPYRANOSIDE,  $\beta$ -d-FRUCTOFURANOSYL O- $\alpha$ -d-GALACTOPYRANOSYL-(1-6)-  $\square$  GOSSYPOSE  $\square$  MELITOSE  $\square$  MELITRIOSE  $\square$  RAFFINOSE  $\square$  d-(+)-RAFFINOSE

**TOXICITY DATA with REFERENCE:**

ivn-mus TDLo:  $80 \mu\text{g/kg}$  (female 2-9D post): REP SCYYDZ 11(4),7,91

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

**SAFETY PROFILE:** Experimental reproductive effects. When heated to decomposition it emits acrid smoke and irritating vapors.

**RBA400 HR: 2**  
**RAGWORT**

**PROP:** *S. jacobaea* is a biennial or perennial herb up to 4 feet tall and produces clusters of yellow flowers. It is native to Europe and grows wild in the region from Massachusetts to Newfoundland, Quebec, and Ontario, and on the west coast of North America from British Columbia to Washington and Oregon. *S. longilobus* is a perennial shrub with white flowers. It grows wild in the area from Utah to northern Mexico. *S. vulgaris* is an annual that grows to 1 foot high with golden yellow flowers. It is native to Europe and is a weed in Alaska, all of Canada, the region bounded by New England, South Carolina and Wisconsin; California, New Mexico, and Texas.

**SYNS:** COMMON GROUNDSEL  $\square$  GORDOLOBO YERBA (MEXICO)  $\square$  GROUNDSEL  $\square$  HIERBA de SANTIAGO (MEXICO)  $\square$  SENECA JACOBAEA  $\square$  SENECA LONGILOBUS  $\square$  SENECIO

VULGARIS  $\square$  STINKING WILLIE  $\square$  TANSY RAGWORT  $\square$  THREADLEAF GROUNDSEL

**SAFETY PROFILE:** The whole plant contains poisonous pyrrolizidine alkaloids. The milk from cows that have eaten the plant and honey from the nectar are toxic. Chronic consumption of teas made from this plant may cause anorexia with nausea, vomiting, diarrhea, and liver and kidney damage due to blockage of the veins in these organs.

**RBA500 HR: 1**  
**RAIN LILY**

**PROP:** Bulb-producing plants with 1-foot long grassy leaves that grow directly from the bulb. It produces white flowers (sometimes tinged with purple) which grow at the end of a leafless stalk. It grows in marshy areas in the region bounded by Virginia, Florida, and Alabama.

**SYNS:** ATAMASCO LILY  $\square$  FAIRY LILY  $\square$  ZEPHYR LILY  $\square$  ZEPHYRANTHES ATAMASCO

**SAFETY PROFILE:** The bulbs contain the poison lycorine. Ingestion of large amounts of the bulbs can cause nausea, persistent vomiting, and diarrhea.

**RBF100 CAS: 26538-44-3 HR: D**  
**RALGRO**

mf:  $\text{C}_{18}\text{H}_{26}\text{O}_5$  mw: 322.44

**PROP:** Crystals from 2-propanol (aq). Mp:  $182-184^{\circ}$ .

**SYNS:** 6-(6,10-DIHYDROXYUNDECYL)- $\beta$ -RESORCYLIC ACID- $\mu$ -LACTONE  $\square$  FRIDERON  $\square$  MK-188  $\square$  P1496  $\square$  RALABOL  $\square$  RALONE  $\square$  ZEARALANOL  $\square$  ZEARANOL  $\square$  ZERANOL (USDA)

**TOXICITY DATA with REFERENCE:**

spm-mus-sub 750 mg/kg MUREAV 261,181,91

orl-rat TDLo: 52 mg/kg (female 6-18D post): TER TJADAB 26,229,82

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

**SAFETY PROFILE:** An experimental teratogen. Experimental reproductive effects. Mutation data reported. When heated to decomposition it emits acrid smoke and irritating fumes.

**RBF200 CAS: 14787-38-3 HR: D**  
**RAMENTACEONE**

mf:  $\text{C}_{11}\text{H}_8\text{O}_3$  mw: 188.19

**SYNS:** 5-HYDROXY-7-METHYL-1,4-NAPHTHALENEDIONE  $\square$  5-HYDROXY-7-METHYL-1,4-NAPHTHOQUINONE  $\square$  1,4-NAPHTHALENEDIONE, 5-HYDROXY-7-METHYL-  $\square$  7-METHYLJUGLON  $\square$  7-METHYLJUGLONE  $\square$  1,4-NAPHTHOQUINONE, 5-HYDROXY-7-METHYL-

**TOXICITY DATA with REFERENCE:**

mic-sat 50  $\mu\text{Lg/plate}$  MUREAV 124,25,1983

**SAFETY PROFILE:** Mutation data reported. When heated to decomposition it emits acrid smoke and irritating vapors.

**RBF400 CAS: 66337-59-3 HR: 3**  
**RANIDIL**

mf:  $\text{C}_{13}\text{H}_{24}\text{N}_4\text{O}_3\text{S}\cdot\text{ClH}$  mw: 352.93

**PROP:** A solid. Mp:  $69-70^{\circ}$ .

**SYNS:** AH 19065  $\square$  RANITIDINE HYDROCHLORIDE  $\square$  ZANTAC

**TOXICITY DATA with REFERENCE:**

orl-wmn TDLo:48 mg/kg/8D-I:SYS AIMEAS 101,207,84  
orl-man TDLo:90 mg/kg/3W-I:SYS,MET AIMEAS 101,208,84

orl-rat LD50:4190 mg/kg OYYAA2 26,147,83  
ipr-rat LD50:441 mg/kg YKYUA6 36,521,85  
scu-rat LD50:1700 mg/kg YKYUA6 36,521,85  
ivn-rat LD50:136 mg/kg OYYAA2 26,147,83  
ims-rat LD50:1530 mg/kg YKYUA6 36,521,85  
orl-mus LD50:1440 mg/kg OYYAA2 26,147,83  
ipr-mus LD50:300 mg/kg YKYUA6 36,521,85  
scu-mus LD50:630 mg/kg YKYUA6 36,521,85  
ivn-mus LD50:83 mg/kg OYYAA2 26,147,83  
ims-mus LD50:400 mg/kg YKYUA6 36,521,85  
orl-rbt LD50:2500 mg/kg YKYUA6 36,521,85  
ivn-rbt LD50:109 mg/kg YKYUA6 36,521,85

**SAFETY PROFILE:** Poison by intravenous, intramuscular, and intraperitoneal routes. Moderately toxic by ingestion and subcutaneous routes. Human systemic effects by ingestion: diffuse hepatitis, fibrous hepatitis and fever. Experimental reproductive effects. When heated to decomposition it emits toxic fumes of SO<sub>x</sub>, NO<sub>x</sub>, and HCl.

**RBF450 CAS: 128345-62-0 HR: 3**  
**RANITIDINE BISMUTH CITRATE**

mf: C<sub>13</sub>H<sub>22</sub>N<sub>4</sub>O<sub>3</sub>S•C<sub>6</sub>H<sub>5</sub>BiO<sub>7</sub> mw: 712.49

**SYN:** 1,2,3-PROPANETRICARBOXYLIC ACID, 2-HYDROXY-, COMPOUNDS, BISMUTH(3+) SALT, COMPD. WITH N-(2-((5-((DIMETHYLAMINO)METHYL)-2-FURANYL)-METHYL)THIO)-ETHYL)-N'-METHYL-2-NITRO-1,1-ETHENEDIAMINE (1:1:1)

**TOXICITY DATA with REFERENCE:**

orl-mus TDLo:80 mg/kg NETEEC 22,559,2001

**SAFETY PROFILE:** A poison by ingestion. When heated to decomposition it emits toxic vapors of NO<sub>x</sub>, SO<sub>x</sub>, and Bi.

**RBF500 CAS: 7085-19-0 HR: 2**  
**RANKOTEX**

mf: C<sub>10</sub>H<sub>11</sub>ClO<sub>3</sub> mw: 214.66

**PROP:** Crystalline white to light brown odorless solid. Decomposes before reaching boiling point. mp: 94–95°, d: 0.6g/ml, dry uncompact. Sol in water: 0.06% @ 20°; readily soluble in alcohol, benzene, acetone, and chlorinated hydrocarbons.

**SYNS:** ANICON P □ CLIFTON CMPP 60 □ CMPP □ COMPITOX □ COMPITOX PLUS □ ISOCARNOX □ ISO-CORNOX 57 □ MCPP □ MECHLORPROP □ MECOPEX □ MECOPROP □ OKULTIN MP □ PROPANOIC ACID, 2-(4-CHLORO-2-METHYL-PHENOXY)-, (+)- □ PROPIONIC ACID, 2-(4-CHLORO-O-TOLYL)OXY)-, (+)- □ PROPONEX-PLUS □ RD 4593 □ U46 KV-FLUID

**TOXICITY DATA with REFERENCE:**

orl-rat LD50:700 mg/kg 85JFAN A255,84

orl-mus LD50:650 mg/kg PEMNDP 9,539,91

**SAFETY PROFILE:** Moderately toxic by ingestion. When heated to decomposition it emits toxic vapors of Cl<sup>-</sup>.

**RBK000 CAS: 53123-88-9 HR: 3**  
**RAPAMYCIN**

mf: C<sub>56</sub>H<sub>89</sub>NO<sub>14</sub> mw: 1000.46

**PROP:** Crystals from Et<sub>2</sub>O. Mp: 183–185°.

**SYNS:** ANTIBIOTIC AY 22989 □ AY 22989 □ NSC-226080

**TOXICITY DATA with REFERENCE:**

dnd-mus:leu 60 μmol/L PAACA3 24,321,83

dni-mus:leu 10 μmol/L PAACA3 34,321,83

oms-mus:leu 1 mmol/L PAACA3 24,321,83

ipr-rat LD50:18,220 μg/kg NTIS\*\* PB83-228577

orl-mus LD50:2500 mg/kg 85ERAY 2,947,78

ipr-mus LD50:597 mg/kg JANTAJ 31,539,78

**SAFETY PROFILE:** Poison by intraperitoneal route. Moderately toxic by ingestion. Mutation data reported. When heated to decomposition it emits toxic fumes of NO<sub>x</sub>.

**RBK200 HR: D**  
**RAPESEED OIL**

**PROP:** Pale yellow liquid. Sol in chloroform and ether.

**SYNS:** COLZA OIL □ FULLY HYDROGENATED RAPESEED OIL □ LOW ERUCIC ACID RAPESEED OIL □ RAPE SEED OIL □ SUPERGLYCERINATED FULLY HYDROGENATED RAPESEED OIL

**SAFETY PROFILE:** When heated to decomposition it emits acrid smoke and irritating fumes.

**RBP000 HR: 3**  
**RARE EARTHS**

**SAFETY PROFILE:** Modern ion exchange techniques have eased the separation of rare earths from their ores and from one another. The elements to be considered are listed below.

Table 1  
RARE EARTHS

Name	Symbol	At. Wt.	At. No.	Abundance (g/metric ton)
Scandium	Sc	44.956	21	5.0
Yttrium	Y	88.905	39	28.10
Lanthanum	La	138.910	57	18.30
Cerium	Ce	140.120	58	46.10
Praseodymium	Pr	140.907	59	5.53
Neodymium	Nd	144.240	60	23.90
Promethium	Pm	147.000	61	ca.0
Samarium	Sm	150.350	62	6.47
Europium	Eu	151.960	63	1.06
Gadolinium	Gd	157.250	64	6.36
Terbium	Tb	158.924	65	0.91
Dysprosium	Dy	162.500	66	4.47
Holmium	Ho	164.930	67	1.15
Erbium	Er	167.260	68	2.47
Thulium	Tm	168.934	69	0.20
Ytterbium	Yb	173.040	70	2.66
Lutetium	Lu	174.970	71	0.75

**SAFETY PROFILE:** The rare earths are moderately to highly toxic. The acute lethal dose by various routes of administration are given below. The symptoms of toxicity of the rare earth elements including writhing, ataxia, labored respiration, walking on the toes with arched back, and sedation. There is a delayed lethality with the death rate peaking between 48 and 96 hours. A sex difference is apparent with the males being less susceptible than the

females. If the animals survive for 30 days, there is generalized peritonitis, adhesions, and hemorrhagic ascitic fluid (Bruse et al., 1963) and also true granulomatous peritonitis and focal hepatic necrosis (Steffee 1959). Chelating agents, citrate or EDTA act to obscure the lethal effects of the rare earths by either decreasing their rate of release or by increasing their lethality by exchanging with other elements such as calcium. The effect of atomic weight on lethality is difficult to assess, but the transition elements (terbium group) appear to have a lesser toxicity than those above or below them in the periodic table (Haley, 1965). The low toxicity is probably related to poor intestinal absorption. Czech investigators reported high mortality at 7 and 16 days following intraperitoneal injection of  $\text{ScCl}_3$ , but their  $\text{LD}_{50}$  value was only 32 (28.6–36.8) mg/kg (Donozal et al., 1966). Intravenous administration of any of the rare earth chlorides to rats followed by local injection of epinephrine causes topical hemorrhagic lesions at the site or in the kidneys. This effect can be blocked by pretreatment with  $\alpha$ -adrenergic blocking drugs in the case of  $\text{ScCl}_3$  (Gabbiani et al., 1966). When given intravenously to mice, the toxicity of rare earth elements increased in the following order:  $\text{La} < \text{Nd} < \text{Y}$ . The toxicity of Nd salts increased as follows: chloride < propionate < acetate < 3-sulfoisonicotinate < sulfate < nitrate (Zimakov, 1973). Rats pretreated with polymyxin, then given  $\text{CdCl}_3$ , can be prevented from suffering these toxic effects by reticuloendothelial system activators such as zymosan, triolein, or BCG, while  $\text{CeCl}_3$ -induced fatty degeneration of the liver can be prevented by reticuloendothelial inhibition with methyl palmitate (Lazar, 1973a). Glucocorticoids plus  $\text{GdCl}_3$  produce hepatic peliosis in the rat liver (Selye et al., 1972). Oral or intraperitoneal doses of 5 to 10 g/kg of  $\text{Dy}_2\text{O}_3$  or  $\text{Gd}_2\text{O}_3$  had no pathological effects in mice and daily doses of 2 g/kg were harmless. Rare earth oxides are much less toxic than chlorides or citrates (Mogilevskaya and Roshchira, 1976). Reticuloendothelial system activity in rats was depressed by doses of 0.2 mg/100 g of  $\text{LaCl}_3$ ,  $\text{CeCl}_3$ ,  $\text{NdCl}_3$ ,  $\text{HoCl}_3$ , or  $\text{YbCl}_3$  (Lazar, 1973b).

The rare earth elements exhibit low toxicity by ingestion exposure. However, the intraperitoneal route is highly toxic while the subcutaneous route is poison to moderately toxic. The production of skin and lung granulomas after exposure to them requires extensive protection to prevent such exposure. Toxicity from exposure to rare earth radionuclides is related to absorbed radiation dose. The rare earth radionuclides have proven useful clinically in radiohypophysectomy, treatment of mammary and prostatic carcinoma and Cushing's syndrome, diabetic retinopathy, and carcinoma in other body tissues and organs. Rare earth chelates have proven useful diagnostic agents in brain, lung, and renal scanning, and in determining regional blood flow and renal function. (Haley T. J., 1965, *J. Pharm. Sci.* 54, 663.) They were first used for cigarette lighter flints, in Welsbach mantles for increasing the brightness of gas lights and in Coleman lanterns. Additional uses include control rods for atomic reactors utilizing their large cross-section capture values for neutrons, the addition of cerium to increase the life of nickel-chrome resistant wire, radiothulium in portable roentgenographic equipment, new types of alloys, lasers,

masers, microwave devices, phosphors, insulators, capacitors, semiconductors, ferroelectrics, and color television.

Table 2  
Rare Earth Toxicity Data Table

Name	Species and sex	LD50 (mg/kg)	mg/kg
Praseodymium chloride	Rat <sup>F</sup>	4200 (3684–4788)	P.O.
	Rat <sup>F</sup>	4.3 (3.4–5.6)	i.v.
	Rat <sup>M</sup>	49.6 (32.8–74.4)	i.v.
	Frog	about 1000–1500	s.c.
	Mouse	2500 <sup>a</sup>	s.c.
	Mouse	358.9 (297.2–433.5)	i.p.
	Mouse	900–1500 <sup>a</sup>	s.c.
	Mouse <sup>M</sup>	600 (552–652)	i.p.
	Mouse <sup>M</sup>	4500 (4054–4995)	P.O.
	Rat	<2000	i.p.
citrate chloride	Guinea pig	125 (78.2–200)	i.p.
	Rabbit	200–250	s.c.
	Mouse	140.6 (126.2–156.7)	i.p.
nitrate	Guinea pig	53 (29.9–70.3)	i.p.
	Mouse <sup>F</sup>	200 (259–325)	i.p.
	Rat <sup>F</sup>	245 (209–287)	i.p.
	Rat <sup>F</sup>	3500 (3017–4060)	P.O.
	Rat <sup>F</sup>	7.4 (5.1–10.8)	i.v.
	Rat <sup>M</sup>	77.2 (49.7–119.8)	i.v.
	Rat	10.8–13.9 <sup>a</sup>	i.v.
Neodymium chloride	Frog	250 <sup>a</sup>	s.c.
	Mouse	4000 <sup>a</sup>	s.c.
	Mouse <sup>M</sup>	600 (562.0–640)	i.p.
	Mouse <sup>M</sup>	5250 (4730–5830)	P.O.
	Mouse	348.3 (297.2–408.3)	i.p.
	Rat	150–250 <sup>a</sup>	i.p.
	Guinea pig	70 <sup>a</sup>	i.v.
	Guinea pig	139.6 (99.3–196.3)	i.p.
	Rabbit	200–250 <sup>a</sup>	i.v.
	Mouse	138 (94.4–201.8)	i.p.
citrate chloride	Guinea pig	40.5 (4.7–348)	i.p.
	Mouse <sup>F</sup>	270 (221–329)	i.p.
	Rat <sup>F</sup>	270 (231–316)	i.p.
nitrate	Rat <sup>F</sup>	2750 (1896–3988)	P.O.
	Rat <sup>F</sup>	6.4 (5.5–7.3)	i.v.
	Rat <sup>M</sup>	66.8 (53.5–83.6)	i.v.
	Frog	about 150 <sup>a</sup>	s.c.
	Mouse <sup>M</sup>	585 (508.7–672.7)	i.p.
	Mouse <sup>M</sup>	>2000	P.O.
	Rat	>2000 <sup>a</sup>	s.c.
Samarium chloride	Guinea pig	750–1000 <sup>a</sup>	s.c.
	Frog	1600 <sup>a</sup>	s.c.
	Mouse <sup>F</sup>	315 (258–384)	i.p.
nitrate	Rat <sup>F</sup>	285 (254–319)	i.p.
	Rat <sup>F</sup>	2900 (2660–3161)	P.O.
	Rat <sup>F</sup>	8.9 (6.8–11.8)	i.v.
	Rat <sup>M</sup>	59.1 (40.5–86.3)	i.v.
	Guinea pig	about 500 <sup>a</sup>	s.c.
	Mouse <sup>M</sup>	550 (515.5–586.9)	i.p.
	Mouse <sup>M</sup>	5000 (4505–5500)	i.p.
Europium chloride	Mouse <sup>F</sup>	320 (294–349)	i.p.
	Rat <sup>F</sup>	210 (172–256)	i.p.
	Rat <sup>F</sup>	>5000	P.O.
Gadolinium chloride	Mouse <sup>M</sup>	550 (495.5–610.5)	i.p.
	Mouse <sup>M</sup>	>2000	P.O.
	Mouse <sup>F</sup>	300 (261–345)	i.p.
nitrate	Rat <sup>F</sup>	230 (204–260)	i.p.
	Rat <sup>F</sup>	>5000	P.O.
	Mouse <sup>M</sup>	550 (521.3–580.3)	i.p.
	Mouse <sup>M</sup>	5100 (5049.5–5151)	P.O.
	Mouse <sup>F</sup>	480 (444–518)	i.p.
Terbium chloride	Rat <sup>F</sup>	260 (232–291)	i.p.

	Rat <sup>F</sup>	>5000	P.O.
Dysprosium chloride	Mouse <sup>M</sup>	585 (552–620)	i.p.
	Mouse <sup>M</sup>	7650 (7150–8186)	P.O.
nitrate	Mouse <sup>F</sup>	310 (261–369)	i.p.
	Rat <sup>F</sup>	295 (236–369)	i.p.
	Rat <sup>F</sup>	3100 (2870–3348)	P.O.
Holmium chloride	Mouse <sup>M</sup>	560 (541–580)	i.p.
	Mouse <sup>M</sup>	7200 (6667–7776)	P.O.
nitrate	Mouse <sup>F</sup>	320 (302–339)	i.p.
	Rat <sup>F</sup>	270 (237–308)	i.p.
	Rat <sup>F</sup>	3000 (2804–3210)	P.O.
Erbium chloride	Frog	300–400 <sup>a</sup>	s.c.
	Mouse <sup>M</sup>	535 (509–562)	i.p.
	Mouse <sup>M</sup>	6200 (5390–7140)	P.O.
nitrate	Mouse <sup>F</sup>	225 (194–261)	i.p.
	Rat	82.8–96.6 <sup>a</sup>	i.v.
	Rat <sup>F</sup>	230 (195–271)	i.p.
	Rat <sup>F</sup>	35.8 (27.8–49.9)	i.v.
	Rat <sup>M</sup>	52.4 (37.0–74.5)	i.v.
Thulium chloride	Mouse <sup>M</sup>	48.5 (466.3–504.4)	i.p.
	Mouse <sup>M</sup>	6250 (5430–7190)	P.O.
nitrate	Mouse <sup>F</sup>	255 (226–288)	i.p.
	Rat <sup>F</sup>	285 (252–322)	i.p.
Scandium chloride	Mouse <sup>M</sup>	755 (741.7–768.6)	i.p.
	Mouse <sup>M</sup>	4000 (3960–4040)	P.O.
Yttrium chloride	Mouse	88 (67.7–114.4)	i.p.
	Rat	450	i.p.
	Rat	45 (41.1–49.3)	i.p.
nitrate	Frog	350 <sup>a</sup>	s.c.
	Mouse	1660	s.c.
	Rat	20–30 <sup>a</sup>	i.v.
	Rat	350	i.p.
	Rabbit	500	i.v.
oxide	Rat	500	i.p.
Lanthanum acetate	Rat	10,000	P.O.
	Rat	475	i.p.
ammonium nitrate	Rat	3400	P.O.
	Rat	625	i.p.
citrate chloride	Mouse	78.2 (70.0–100.3)	i.p.
	Guinea pig	60.7 (17.7–207.0)	i.p.
chloride	Frog	about 1000 <sup>a</sup>	s.c.
	Mouse	3500 <sup>a</sup>	s.c.
	Mouse	3500 <sup>a</sup>	s.c.
	Mouse	372.4 (323.6–428.5)	i.p.
	Mouse	>500 <sup>a</sup>	s.c.
	Mouse	>160 <sup>a</sup>	i.p.
	Rat	106 (91.4–123)	i.p.
	Rat	350	i.p.
	Guinea pig	129.7 (105.4–159.6)	i.p.
	Rat	4200	P.O.
	Rabbit	200–250 <sup>a</sup>	i.v.
nitrate	Rat	4500	P.O.
	Rat	450	i.p.
	Mouse <sup>F</sup>	410 (353–475)	i.p.
oxide	Rat	>10,000	P.O.
sulfate	Rat	>5000	P.O.
	Rat	275	i.p.
Cerium chloride	Frog	about 300 <sup>a</sup>	s.c.
	Mouse	5000–10 000 <sup>a</sup>	s.c.
	Mouse	353.2 (296.5–420.7)	i.p.
	Rat	2000–4000 <sup>a</sup>	s.c.
	Rat	50–60 <sup>a</sup>	i.v.
	Guinea pig	55.7 (40.1–77.4)	i.p.
citrate chloride	Rat	146.6 (128.6–167.1)	i.p.
	Guinea pig	103.5 (73.1–146.5)	i.p.
nitrate	Mouse <sup>F</sup>	470 (435–508)	i.p.
	Rat <sup>F</sup>	290 (238–354)	i.p.
Ytterbium chloride	Mouse <sup>M</sup>	395 (375–416.7)	i.p.
	Mouse <sup>M</sup>	6700 (6374.9–7041.7)	P.O.
nitrate	Mouse <sup>F</sup>	250 (185–338)	i.p.
	Rat <sup>F</sup>	255 (220–296)	i.p.
	Rat <sup>F</sup>	3100 (2924–3286)	P.O.
Lutetium chloride	Mouse <sup>M</sup>	315 (267–372)	i.p.
	Mouse <sup>M</sup>	7100 (6630–7590)	P.O.
	Mouse <sup>F</sup>	290 (259–325)	i.p.

Rat<sup>F</sup> 325 (294–382) i.p.

<sup>a</sup> Minimum lethal dose; <sup>b</sup> s.c., subcutaneous; P.O., oral; i.p., intraperitoneal; i.v., intravenous. Source: Haley, T. J., 1965. *J. Pharm. Sci.* **54**, 663.

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## RBU000 CAS: 5471-51-2 HR: 3 RASPBERRY KETONE

mf: C<sub>10</sub>H<sub>12</sub>O<sub>2</sub> mw: 164.22

**PROP:** Needles from water or white solid; raspberry odor. Mp: 81–86°.

**SYNS:** 2-BUTANONE, 4-(4-HYDROXYPHENYL)- □ FEMA No. 2588 □ FRAMBINONE □ p-HYDROXYBENZYL ACETONE □ 4-(4-HYDROXYPHENYL)-2-BUTANONE □ 1-(p-HYDROXY-PHENYL)-3-BUTANONE □ 4-(p-HYDROXYPHENYL)-2-BUTANONE (FCC) □ OXYPHENALON □ RHEOSMIN

## TOXICITY DATA with REFERENCE:

orl-rat LD50:1320 mg/kg FCTXAV 8,349,70

ipr-rat LD50:350 mg/kg FCTXAV 8,349,70

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

**DOT CLASSIFICATION:** 3; Label: Flammable Liquid

**SAFETY PROFILE:** Poison by intraperitoneal route. Moderately toxic by ingestion. Flammable liquid. When heated to decomposition it emits acrid smoke and irritating fumes. See also KETONES.

## RBZ000 HR: 2 RATON

**PROP:** Aqueous extract from the dried leaves of the plant (JNCIAM 46,1131,71).

**SYN:** GLIRICIDIAL SEPIUM

## TOXICITY DATA with REFERENCE:

scu-rat TDLo:300 g/kg/1Y-I:ETA JNCIAM 46,1131,71

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

**RBZ400****HR: 3****RATTLE BOX**

**PROP:** Stout yellow herbs with flowers that are normally yellow. When dry, the seeds rattle inside the seed pods. They are common weeds in the United States and the West Indies, but not in Canada and Alaska. *C. retusa* is cultivated in Florida.

**SYNS:** ALA de PICO (MEXICO) □ CASCABELILLO (PUERTO RICO) □ CROTALARIA BERTEROANA □ CROTALARIA INCANA □ CROTALARIA JUNCEA □ CROTALARIA RETUSA □ CROTALARIA SPECTABILIS □ MAROMERA (CUBA) □ PETE-PETE (HAITI) □ RABBIT-BELLS □ RATTLEWEED (JAMAICA) □ SHAKE-SHAKE

**SAFETY PROFILE:** The whole plant contains poisonous pyrrolizidine alkaloids. Poisonings have been reported from contamination of grain with *Crotalaria* seeds and from herbal teas made with the plant. Ingestion of any part of the plant may cause abdominal pains and accumulation of fluid, nausea, vomiting, diarrhea, and cirrhosis of and blood clots in the liver. Chronic ingestion may cause hypertension.

**RCA200****CAS: 84-36-6****HR: 3****RAUNOVA**mf: C<sub>35</sub>H<sub>42</sub>N<sub>2</sub>O<sub>11</sub> mw: 666.79

**PROP:** Crystals from acetone. Mp: 175–179°.

**SYNS:** CARBETHOXYSYRINGOYL METHYLRESERPATE □ ETROPRES □ 4-HYDROXY-3,5-DIMETHOXY-BENZOIC ACID ETHYL CARBONATE, ester with METHYL RESERPATE □ IPORES □ ISOTENSE □ LONDONIN □ MENATENSINA □ METHYL CARBETHOXYSYRINGOYL RESERPATE □ METHYL RESERPATE-4-ETHOXYCARBONYL-3,5-DIMETHOXYBENZOIC ACID ESTER □ METHYL RESERPATE ESTER of SYRINGIC ACID ETHYL CARBONATE □ NEORESERPAN □ NOVOSERPINA □ RESERPIC ACID-METHYL ESTER, ESTER with 4-HYDROXY-3,5-DIMETHOXYBENZOIC ACID ETHYL CARBONATE □ REVELOX-WIRKSTOFF □ SENIRAMIN □ SERINGINA □ SERPAGON □ SINGOSERP □ SIRINGAL □ SIRINGINA □ SIRINGONE □ SIRISERPIN □ SU 3118 □ SYRINGIC ACID ETHYL CARBONATE ESTER with METHYL RESERPATE □ SYRINGOPINE □ SYROSINGOPIN □ SYROSINGOPINE □ VEGASERPINA

**TOXICITY DATA with REFERENCE:**

ipr-rat LD50:286 mg/kg NIIRDN 6,365,82  
ivn-rat LD50:50 mg/kg PSEBAA 76,847,51  
orl-mus LD50:1293 mg/kg NIIRDN 6,365,82  
ipr-mus LD50:101 mg/kg NIIRDN 6,365,82  
scu-mus LD50:281 mg/kg NIIRDN 6,365,82

**SAFETY PROFILE:** Poison by subcutaneous, intravenous, and intraperitoneal routes. Moderately toxic by ingestion. Experimental reproductive effects. When heated to decomposition it emits toxic fumes of NO<sub>x</sub>.

**RCA275****CAS: 8059-82-3****HR: 2****RAUTRAX****TOXICITY DATA with REFERENCE:**

orl-wmn TDLo:1825 mg/kg/5Y-C:NEO LANCAO 2,672,74

**SAFETY PROFILE:** Questionable human carcinogen producing lung and skin tumors. When heated to decomposition it emits acrid smoke and irritating fumes.

**RCA300****CAS: 55511-98-3****HR: 2****RAVAGE**mf: C<sub>10</sub>H<sub>16</sub>N<sub>4</sub>O<sub>2</sub>S mw: 256.36

**SYNS:** BUTHIDAZOLE □ 1-(5-tert-BUTYL-1,3,4-THIADIAZOL-2-YL)-4-HYDROXY-1-METHYL-2-IMIDAZOLIDIN ONE □ 2-IMIDAZOLIDINONE, 3-(5-(1,1-DIMETHYLETHYL)-1,3,4-THIADIAZOL-2-YL)-4-HYDROXY-1-METHYL-(9CI) □ 2-IMIDAZOLIDINONE, 3-(5-tert-BUTYL-1,3,4-THIADIAZOL-2-YL)-4-HYDROXY-1-METHYL- □ VEL-5026

**TOXICITY DATA with REFERENCE:**

orl-rat LD50:1542 mg/kg 85AREA 2,102,77

**SAFETY PROFILE:** Moderately toxic by ingestion. When heated to decomposition it emits toxic vapors of NO<sub>x</sub> and SO<sub>x</sub>.

**RCA375****CAS: 21416-67-1****HR: 3****RAZOXANE**mf: C<sub>11</sub>H<sub>16</sub>N<sub>4</sub>O<sub>4</sub> mw: 268.31

**SYNS:** ICI 59118 □ ICRF 159 □ 4,4'-PROPYLENEDI-2,6-PIPERAZINEDIONE □ RAZOXIN

**TOXICITY DATA with REFERENCE:**

dni-hmn:lym 20 mg/L INNDDK 1,283,83  
oms-hmn:lym 20 mg/L INNDDK 1,283,83  
mnt-mus-ipr 200 mg/kg BJCAAI 52,725,85  
cyt-ham-orl 100 mg/kg BJCAAI 52,725,85  
orl-man TDLo:693 mg/kg/77W-I:CAR LANCAO 2,1343,81  
orl-wmn TD:4650 mg/kg/2Y-C:CAR LANCAO 2,1343,81  
orl-wmn TDLo:3650 mg/kg/2Y-I:BLD LANCAO 2,1085,87  
unr-wmn TDLo:600 mg/kg/34W-I:BLD BJDEAZ 113,131,85  
unr-man TDLo:6467 mg/kg/6Y-I:BLD BJDEAZ 113,131,85  
ipr-mus LD50:500 mg/kg CPBTAL 29,1594,81

**SAFETY PROFILE:** Suspected human carcinogen producing leukemia and skin tumors. Moderately toxic by intraperitoneal route. Human effects: normocytic anemia and thrombocytopenia. Human mutation data reported. When heated to decomposition it emits toxic fumes of NO<sub>x</sub>.

**RCA435****CAS: 35133-58-5****HR: 3****RC 72-01**mf: C<sub>22</sub>H<sub>35</sub>NO<sub>2</sub> mw: 345.58

**SYNS:** 4-(CYCLOHEXYLMETHYL)-α-(4-METHOXYPHENYL)-β-METHYL-1-PIPERIDINEETHANOL □ 2-(4-(CYCLOHEXYLMETHYLPIPERIDINO)-1-(4'-METHOXYPHENYL)-1-PROPANOL

**TOXICITY DATA with REFERENCE:**

orl-mus LD50:115 mg/kg ARZNAD 21,1992,71  
ipr-mus LD50:37 mg/kg ARZNAD 21,1992,71  
ivn-mus LD50:8 mg/kg ARZNAD 21,1992,71

**SAFETY PROFILE:** Poison by ingestion, intravenous, and intraperitoneal routes. When heated to decomposition it emits toxic fumes of NO<sub>x</sub>.

**RCA450****CAS: 35133-59-6****HR: 3****RC 72-02**mf: C<sub>22</sub>H<sub>27</sub>NO<sub>2</sub> mw: 337.50

**SYNS:** 2-(4-BENZYL-1,2,3,6-TETRAHYDROPYRIDINO)-1-(4'-METHOXYPHENYL)-1-PROPANOL □ 3,6-DIHYDRO-α-(4-METHOXYPHENYL)-β-METHYL-4-(PHENYLMETHYL)-1(2H)-PYRIDINEETHANOL

**TOXICITY DATA with REFERENCE:**

orl-mus LD50:760 mg/kg ARZNAD 21,1992,71

ipr-mus LD50:75 mg/kg ARZNAD 21,1992,71

ivn-mus LD50:7500 µg/kg ARZNAD 21,1992,71

**SAFETY PROFILE:** Poison by intravenous and intraperitoneal routes. Moderately toxic by ingestion. When heated to decomposition it emits toxic fumes of NO<sub>x</sub>.

**RCA500 CAS: 108778-72-9 HR: 2**  
**REACTIVE TURQUOISE K**

**TOXICITY DATA with REFERENCE:**

orl-rat LD50:>10 g/kg CUTOEX 1,243,93

ipr-rat LD50:1800 mg/kg CUTOEX 1,243,93

orl-mus LD50:6100 µg/kg CUTOEX 1,243,93

**SAFETY PROFILE:** Moderately toxic by intraperitoneal route. Low toxicity by ingestion. When heated to decomposition it emits acrid smoke and irritating vapors.

**RCF000 CAS: 39283-42-6 HR: 3**  
**RED SQUILL**

**PROP:** Sea onion bulbs contain a potent concentration of scilliroside, a glycoside bearing a close chemical resemblance to the Scillarens (JCPTA9 62,23,52).

**SYNS:** BONIDE TOPZOL RAT BAITS and KILLING SYRUP □ RAT-O-CIDE RAT BAIT □ RAT'S END □ RODINE □ ROUGH & READY RAT BAIT & RAT PASTE □ SCILLIROSIDE GLYCOSIDE □ SILMURIN □ SQUILL □ TOPZOL □ URGENEA MARITIMA

**TOXICITY DATA with REFERENCE:**

orl-man TDLo:1414 mg/kg;GIT, CVS JAMAAP 75,971,20

orl-rat LD50:430 mg/kg 31ZOAD 1,371,68

ipr-rat LD50:150 mg/kg JAPMA8 37,307,48

orl-mus LD50:50 mg/kg APTOA6 8,391,52

orl-cat LDLo:100 mg/kg JCPTA9 62,23,52

orl-rbt LDLo:300 mg/kg JCPTA9 62,23,52

orl-pig LDLo:300 mg/kg JCPTA9 62,23,52

orl-dom LDLo:250 mg/kg JCPTA9 62,23,52

orl-rat LD50:125 mg/kg JAFCAU 34,973,86

**SAFETY PROFILE:** Poison by ingestion and intraperitoneal routes. Human systemic effects by ingestion: nausea or vomiting, decreased pulse rate, and fall in blood pressure. When heated to decomposition it emits acrid smoke and irritating fumes.

**RCK000 CAS: 63521-15-3 HR: 2**  
**REFOSPOREN**

mf: C<sub>18</sub>H<sub>14</sub>Cl<sub>2</sub>N<sub>3</sub>O<sub>5</sub>S<sub>3</sub>•Na mw: 570.44

**PROP:** Crystals from acetonitrile.

**SYN:** CEFAZEDONE SODIUM SALT

**TOXICITY DATA with REFERENCE:**

ivn-rat LD50:4225 mg/kg ARZNAD 29,424,79

ivn-mus LD50:6800 mg/kg ARZNAD 29,424,79

ivn-dog LD50:3000 mg/kg ARZNAD 29,424,79

ivn-rbt LD50:3200 mg/kg ARZNAD 29,424,79

**SAFETY PROFILE:** Moderately toxic by intravenous route. An experimental teratogen. Experimental reproductive effects. Used as an antibacterial agent. When heated to decomposition, it emits very toxic fumes of Cl<sup>-</sup>, NO<sub>x</sub>, Na<sub>2</sub>O, and SO<sub>x</sub>.

**RCK725 HR: 3**

**REFRACTORY CERAMIC FIBERS**

**PROP:** A mixture of ALUMINA and SILICA (1:1).

**SYN:** FIBERS, REFRACTORY CERAMIC

**CONSENSUS REPORTS:** NTP 10th Report on Carcinogens.

**SAFETY PROFILE:** Confirmed carcinogen with experimental tumorigenic data.

**RCK730 CAS: 350-12-9 HR: 2**  
**REFUNGINE**

mf: C<sub>17</sub>H<sub>18</sub>N<sub>2</sub>S<sub>2</sub> mw: 314.49

**SYNS:** AFUNGIN □ NOTICIN □ CARBOTHIALDIN D47 □ CARBOTHIALDINE □ D 47 □ DIBENZOTHIONE □ DIBENZTHION □ DIBENZTHIONE □ 3,5-DIBENZYL-2-THION-TETRAHYDRO-1,3,5-THIADIAZIN □ FUNGIPLEX □ MECAL □ SULBENTIN □ SULBENTINE □ TETRAHYDRO-3,5-DIBENZYL-2H-1,3,5-THIADIAZINE-2-THIONE □ 2H-1,3,5-THIADIAZINE-2-THIONE, TETRAHYDRO-3,5-DIBENZYL- □ 2H-1,3,5-THIADIAZINE-2-THIONE, TETRAHYDRO-3,5-BIS(PHENYLMETHYL)-

**TOXICITY DATA with REFERENCE:**

ipr-rat LDLo:>500 mg/kg ARZNAD 19,558,1969

ipr-mus LD50:1100 mg/kg ABMGJ 13,574,1964

**SAFETY PROFILE:** Moderately toxic by intraperitoneal route. When heated to decomposition it emits toxic vapors of SO<sub>x</sub> and NO<sub>x</sub>.

**RCK740 CAS: 9002-69-1 HR: 3**  
**RELAXIN**

**SYNS:** CERVILAXIN □ RELEASIN □ W 1164-3

**TOXICITY DATA with REFERENCE:**

ivn-mus LD50:428 µg/kg YAKUD5 9,759,1967

**SAFETY PROFILE:** A poison by intravenous route. Experimental reproductive effects. When heated to decomposition it emits acrid smoke and irritating vapors.

**RCK750 CAS: 111686-79-4 HR: 3**  
**REMACEMIDE HYDROCHLORIDE**

mf: C<sub>17</sub>H<sub>20</sub>N<sub>2</sub>O•ClH mw: 304.85

**SYNS:** ACETAMIDE, 2-AMINO-N-(1-METHYL-1,2-DIPHENYLETHYL)-, MONOHYDROCHLORIDE, (+)- □ 2-AMINO-N-(1-METHYL-1,2-DIPHENYLETHYL)ACETAMIDE MONOHYDROCHLORIDE (+)- □ FPL 12924AA □ PR 934-423A

**TOXICITY DATA with REFERENCE:**

orl-rat LD50:897 mg/kg TOXID9 8,84,1988

ipr-rat LD50:142 mg/kg TOXID9 8,84,1988

orl-mus LD50:781 mg/kg TOXID9 8,84,1988

ivn-mus LD50:51 mg/kg TOXID9 8,84,1988

**SAFETY PROFILE:** A poison by intraperitoneal and intravenous route. Moderately toxic by ingestion. When heated to decomposition it emits toxic vapors of NO<sub>x</sub> and HCl.

**RCU000 CAS: 17095-24-8 HR: 2**  
**REMAZOL BLACK B**

mf: C<sub>26</sub>H<sub>25</sub>N<sub>5</sub>O<sub>19</sub>S<sub>6</sub>•4Na mw: 995.88

**PROP:** Mp: >300°.

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

**SAFETY PROFILE:** Questionable carcinogen with experimental tumorigenic data. When heated to decomposition it emits very toxic fumes of  $\text{Na}_2\text{O}$ ,  $\text{NO}_x$ , and  $\text{SO}_x$ .

**RCZ000 CAS: 18976-74-4 HR: 2**  
**REMAZOL YELLOW G**

mf:  $\text{C}_{20}\text{H}_{19}\text{ClN}_4\text{O}_{11}\text{S}_3 \cdot 2\text{Na}$  mw: 669.04

**SYNS:** C.I. REACTIVE YELLOW 14 □ p-((4-(5-(2-HYDROXY-ETHYL)SULFONYL)-2-METHOXYPHENYL)AZO)-5-HYDROXY-3-METHYLPYRAZOL-1-YL)-3-CHLORO-5-METHYL-BENZENE-SULFONIC ACID, HYDROGEN SULFATE (ESTER), DISODIUM SALT □ PROCION YELLOW MX 4R

**SAFETY PROFILE:** Questionable carcinogen with experimental tumorigenic data. When heated to decomposition it emits very toxic fumes of  $\text{SO}_x$ ,  $\text{Cl}^-$ ,  $\text{Na}_2\text{O}$ , and  $\text{NO}_x$ .

**RCZ050 CAS: 67375-30-8 HR: 3**  
**RENEGADE**

mf:  $\text{C}_{22}\text{H}_{19}\text{Cl}_2\text{NO}_3$  mw: 416.32

**PROP:** Colorless crystals or white powder. Mp: 79°, d: 1.12. Insol in water.

**SYNS:** ALFAMETHRIN □ ALFOXYLATE □ ALPHACYPERMETHRIN □ CONCORD □ CYCLOPROPANECARBOXYLIC ACID, 3-(2,2-DICHLOROETHENYL)-2,2-DIMETHYL-, CYANO(3-PHENOXYPHENYL) METHYL ESTER, (1- $\alpha$ (S\*),3 $\alpha$ -(+))- □ FASTAC □ FASTAC 10 EC □ FENDONA □ WL 85871

**TOXICITY DATA with REFERENCE:**

mnt-mam-mul 10 ppb MUREAV 298,25,92  
 mnt-mam-mul 5 ppb MUREAV 298,25,92  
 orl-rat LD50:79 mg/kg PEMNDP 9,210,91  
 skn-rat LD50:500 mg/kg PEMNDP 9,210,91  
 skn-rbt LD50:>2 g/kg FMCHA2 -,C17,91

**SAFETY PROFILE:** A poison by ingestion. Moderately toxic by skin contact. Mutation data reported. When heated to decomposition it emits toxic vapors of  $\text{NO}_x$  and  $\text{Cl}^-$ .

**RCZ100 CAS: 9001-98-3 HR: D**  
**RENNET**

**PROP:** Slightly hygroscopic yellow powder. Prac insol in  $\text{H}_2\text{O}$ .

**SYN:** BOVINE RENNET

**SAFETY PROFILE:** When heated to decomposition it emits acrid smoke and irritating fumes.

**RCZ200 CAS: 3613-97-6 HR: D**  
 **$\beta$ -REPELLIN**

mf:  $\text{C}_{12}\text{H}_{17}\text{NO}_2$  mw: 207.30

**SYNS:** ACETAMIDE, N,N-DIETHYL-2-PHENOXY- □ N,N-DIETHYLAMIDE OF PHENOXYACETIC ACID □ N,N-DIETHYL-2-PHENOXYACETAMIDE □ P-203 □ PHENOXY-ACETIC ACID DIETHYLAMIDE

**TOXICITY DATA with REFERENCE:**

cyt-skn-rat 25 g/kg/4W-I FATOAO 40,454,1977  
 cyt-ipr-mus 250 mg/kg/4W-I FATOAO 40,454,1977

**SAFETY PROFILE:** Mutation data reported. When heated to decomposition it emits toxic vapors of  $\text{NO}_x$ .

**RDA350 CAS: 9039-61-6 HR: 3**  
**REPTILASE**

**PROP:** Rectangular crystals. Sol in physiological saline; practically insol in distilled water. Forms complexes with phenol and phenol derivatives that are practically insol in water.

**SYNS:** BATROXOBIN □ BOTHROPS VENOM PROTEINASE □ BOTROPASE □ DEFIBRASE □ DEFIBRASE R □ DF-521 □ REPTILASE R

**TOXICITY DATA with REFERENCE:**

ivn-rat LD50:210  $\mu\text{g}/\text{kg}$  OYYAA2 25,339,83  
 ivn-mus LD50:384  $\mu\text{g}/\text{kg}$  OYYAA2 25,339,83  
 ivn-dog LD50:380  $\mu\text{g}/\text{kg}$  OYYAA2 25,339,83

**SAFETY PROFILE:** A deadly poison by intravenous route. An experimental teratogen. Experimental reproductive effects.

**RDA375 CAS: 125-60-0 HR: 3**  
**RESANTIN**

mf:  $\text{C}_{22}\text{H}_{29}\text{N}_2\text{O} \cdot \text{Br}$  mw: 417.44

**PROP:** Crystals. Mp: 177.5–178.5° (dimorphic crystals from isopropanol + ethyl acetate, mp: 216–216.5°). Freely sol in water (water soln is neutral).

**SYNS:** 1-(4-AMINO-4-OXO-3,3-DIPHENYLBUTYL)-1-METHYLPYRIDINIUM BROMIDE (9CI) □ DIPHENYLPYRIDINO-AETHYL-ACETAMID-BROMMETHYLAT (GERMAN) □ FENPIVERIMIUM BROMIDE □ 12494 HOECHST

**TOXICITY DATA with REFERENCE:**

scu-rat LD50:350 mg/kg AEPPAE 224,357,55  
 orl-mus LD50:800 mg/kg AEPPAE 224,357,55  
 scu-mus LD50:75 mg/kg AEPPAE 224,357,55  
 ivn-mus LD50:13,500  $\mu\text{g}/\text{kg}$  AEPPAE 224,357,55  
 ivn-rbt LD50:22,500  $\mu\text{g}/\text{kg}$  AEPPAE 224,357,55

**SAFETY PROFILE:** Poison by subcutaneous and intravenous routes. Moderately toxic by ingestion. When heated to decomposition it emits toxic fumes of  $\text{NO}_x$  and  $\text{Br}^-$ .

**RDF000 CAS: 131-01-1 HR: 3**  
**RESERPIDINE**

mf:  $\text{C}_{32}\text{H}_{38}\text{N}_2\text{O}_8$  mw: 578.72

**PROP:** Three crystal forms from methanol;  $\alpha$  form, Mp: 228–232°,  $\beta$  form, Mp: 230–232°, and  $\gamma$  form, 138° with resolidification at 175°.

**SYNS:** A-11025 □ CANESCINE □ 11-DEMETHOXYRESERPINE □ DERESPERINE □ DESERPINE □ DESMETHOXYRESERPINE □ 11-DESMETHOXYRESERPINE □ ENDURONYL □ HARMONYL □ LILLY 22641 □ RAUNORINE □ RECANESCIN □ TRANQUINIL

**TOXICITY DATA with REFERENCE:**

ivn-rat LD50:15 mg/kg 27ZQAG -,104,72  
 orl-mus LD50:500 mg/kg JAPMA8 44,688,55  
 ipr-mus LD50:60 mg/kg JAPMA8 44,688,55

**SAFETY PROFILE:** Poison by intravenous and intraperitoneal routes. Moderately toxic by ingestion. Experimental reproductive effects. Questionable human carcinogen producing skin tumors. When heated to decomposition it emits toxic fumes of  $\text{NO}_x$ .

**RDK000 CAS: 50-55-5 HR: 3**  
**RESERPINE**

mf:  $\text{C}_{33}\text{H}_{40}\text{N}_2\text{O}_9$  mw: 608.75

**PROP:** White or pale-buff to sltly yellow powder; odorless. Long prisms from  $\text{Me}_2\text{CO}$  (aq). Mp: 262–266°

(decomp). Insol in water; very sltly sol in alc; sol in chloroform and acetic acid.

**SYNS:** ABESTA □ ABICOL □ ADELFA □ ADELPHANE □ ADELPHIN □ ADELPHIN-ESIDREX-K □ ALKARAU □ ALKASERP □ ALSERIN □ ANQUIL □ APOPLON □ APSICAL □ ARCUM R-S □ ASCOSERP □ ASCOSERPINA □ AUSTRAPINE □ BANASIL □ BANISIL □ BENAZYL □ BENDIGON □ BIOSERPINE □ BRINDERDIN □ BRISERINE □ BROSERPINE □ BUTISERPАЗIDE-25 □ BUTISERPАЗIDE-50 □ BUTISERPINE □ CARDIOSERPIN □ CARDITIVO □ CARRSERP □ CRYSTOSERPINE □ DAREBON □ DESERPINE □ DIUPRES □ DIUTENSEN-R □ DRENUSIL-R □ DYPERTANE COMPOUND □ EBERPINE □ EBERSPINE □ EBSERPINE □ ELFANEX □ ELSERPINE □ ENIPRESSER □ ENT 50,146 □ ESCASPERE □ ESERPINE □ ESKASERP □ GAMASERPIN □ GAMMASERPINE □ GILUCARD □ H 520 □ HELFOSERPIN □ HEXAPLIN □ HIPOSERPIL □ HISERPIL □ HYDROMOX R □ HYDROPRES □ HYDROPRES KA □ HYGROTON-RESERPINE □ HYPERCAL B □ HYPERTANE FORTE □ HYPERTENSAN □ IDOSERP □ IDSOSERP □ INTERPINA □ KEY-SERPINE □ KITINE □ KLIMANOSID □ "L," CARPSERP □ LEMISERP □ LOWESERP □ MARINITENSIDON SIMPLE □ MAVISERPIN □ MAYSERPINE □ MEPHASERPIN □ METATENSIN □ METHYL RESERPATE 3,4,5-TRIMETHOXY-BENZOIC ACID □ METHYL RESERPATE 3,4,5-TRIMETHOXY-BENZOIC ACID ESTER □ MIO-PRESSIN □ MODENOL □ NAQUIVAL □ NCI-C50157 □ NEMBU-SERPIN □ NEO-ANTITENSOL □ NEO-ANTITERSOL □ NEOSERFIN □ NEOSERP □ NEOSLOWTEN □ ORTHOSERPINA □ PERSKLERAN □ PRESSIMEDIN □ PURSERPINE □ QUIESCIN □ RAUCAP □ RAUDIFORD □ RAUDIXIN □ RAUDIXOID □ RAUGAL □ RAULEN □ RAULOYCIN □ RAULOYDIN □ RAUMORINE □ RAUNERVIL □ RAUNORINE □ RAUNORMIN "ORZAN" □ RAUNOVA □ RAUPASIL □ RAUPOID □ RAURINE □ RAUSAN □ RAU-SED □ RAUSEDAN □ RAUSEDIL □ RAUSEDYL □ RAUSERPEN-ALK □ RAUSERPIN □ RAUSERPIN-ALK □ RAUSERPINE □ RAUSERPOL □ RAUSINGLE □ RAUTRIN □ RAUVILID □ RAUVLID □ RAUWASEDIN □ RAUWILID □ RAUWILOID □ RAUWILOID+ □ RAUWIPUR □ RAUWOLEAF □ RAUWOPUR "BYK" □ RAWILID □ RCRA WASTE NUMBER U200 □ RECIPIN □ REGROTON □ RENESER □ R-E-S □ RESALTEX □ RESEDIN □ RESEDREX □ RESEDRIL □ RESE-LAR □ RESER-AR □ RESERBAL □ RESERCAPS □ RESERCEN □ RESERCRINE □ RESERFIA □ RESERJEN □ RESERLOR □ RESERP □ RESERPAL □ RESERPAMED □ RESERPANCA □ RESERPENE □ RESERPEX □ RESERPIDEFE □ RESERPIL □ RESERPIN □ RESERPINA □ RESERPINUM □ RESERPKA □ RESERPOID □ RESERPUR □ RESERP "WANDER" □ RESERSANA □ RESERUTIN □ RESIATRIC □ RESIDINE □ RESINE □ RESOCALM □ RESOMINE □ RESPERIN □ RESPERINE □ RESPITAL □ RESTRAN □ REZERPIN □ RISERPA □ RIVASED □ RIVASIN □ ROLSERP □ ROXEL □ ROXINOID □ ROXYNOID □ RYSER □ SALUPRES □ SALUTENSIN □ SANDRIL □ SANDRON □ SARPAGAN □ SARPAGEN □ SEDARAUPIN □ SEDARAUPINA □ SEDA-RECIPIN □ SEDA-SALUREPIN □ SEDERAUPIN □ SEDSERP □ SEOMINAL □ SERFIN □ SERFOLIA □ SEROLFIA □ SERP □ SERP-AFD □ SERPALAN □ SERPALOID □ SERPANEURONA □ SERPANRAY □ SERPASIL □ SERPASIL APRESOLINE □ SERPASIL-ESIDREX □ SERPASIL-ESIDREX NO. 1 □ SERPASIL-ESIDREX NO. 2 □ SERPASIL-ESIDREX K □ SERPASIL PREMIX □ SERPASOL □ SERPATE □ SERPATONE □ SERPAX □ SERPAZIL □ SERPAZOL □ SERPEDIN □ SERPEN □ SERPENA □ SERPENTIL □ SERPENTIN □ SERPENTINA □ SERPENTINE

"PHARBIL" □ SERPICON □ SERPIL □ SERPILOID □ SERPILUM □ SERPINE □ SERPINE (Pharmaceutical) □ SERPIPUR □ SERPIVITE □ SERPLEX K □ SERPOGEN □ SERPOID □ SERPONE □ SERPRESAN □ SERPYRIT □ SERTABS □ SERTENS □ SERTENSIN □ SERTINA □ SINESALIN COMPOSITION □ SK-RESERPINE □ SOLFO SERPINE □ SUPERGAN □ TEFASERPINA □ TEMPO-RESERPINA □ TEMPOSERPINE □ TENDOSCEN-COMPR □ TENSANYL □ TENSERLIX □ TENSERPINE "ASSIA" □ TENSERPINE □ TENSIONAL □ TENSIONORME □ TEPERPINE □ TERBOLAN □ TRANSERPIN □ 3,4,5-TRIMETHOXYBENZOLYL METHYL RESERPATE □ TRISERPIN □ T-SERP □ TYLANDRIL □ UNILORD □ UNITENSEN □ USAF CB-27 □ VERILOID □ VIO-SERPINE □ V-SERP □ YOHIMBAN-16-CARBOXYLIC ACID derivative of BENZ(g)INDOLO(2,3-a)QUINOLIZINE

#### TOXICITY DATA with REFERENCE:

cyt-mus-ipr 30 mg/kg/48H PCJOAU 12,298,78  
dlt-mus-ipr 300 µg/kg PCJOAU 12,298,78  
orl-rat LD50:420 mg/kg PSSCBG 11,555,80  
ipr-rat LD50:44 mg/kg AIPTAK 110,20,57  
scu-rat LD50:25 mg/kg NYKZAU 56,377,60  
ivn-rat LD50:15 mg/kg 27ZQAG -,111,72  
orl-mus LD50:200 mg/kg PSSCBG 11,555,80  
ipr-mus LD50:5 mg/kg EJMCA5 10,519,75  
scu-mus LD50:52 mg/kg RPTOAN 31,53,68  
ivn-mus LD50:21 mg/kg ARZNAD 14,1040,64  
ivn-dog LD50:500 µg/kg 27ZIAQ -,234,73  
ipr-rbt LD50:7 mg/kg JDGRAX 6(3),19,74  
ivn-rbt LD50:15 mg/kg 27ZQAG -,111,72

**CONSENSUS REPORTS:** NTP 10th Report on Carcinogens. IARC Cancer Review: Group 3 IMEMDT 7,330,87; Animal Inadequate Evidence IMEMDT 10,217,76; Human Limited Evidence IMEMDT 24,211,80; Animal Limited Evidence IMEMDT 24,211,80. NCI Carcinogenesis Bioassay (feed); Clear Evidence: mouse, rat NCITR\* NCI-CG-TR-193,80. Reported in EPA TSCA Inventory.

**SAFETY PROFILE:** Confirmed human carcinogen producing tumors of the skin and brain. Poison by ingestion, intravenous, subcutaneous, and intraperitoneal routes. Mutation data reported. An experimental teratogen. Human and experimental reproductive effects by ingestion: stillbirth, reduced viability, and other neonatal measures or effects. In humans, 0.014 mg/kg causes psychotropic effects. A medicine with side effects. Used as an additive permitted in the feed and drinking water of animals and/or for the treatment of food-producing animals. Also permitted in food for human consumption. A sedative. When heated to decomposition it emits toxic fumes of NO<sub>x</sub>.

**RDK050 CAS: 1263-94-1 HR: 3  
RESERPINE PHOSPHATE**

mf: C<sub>33</sub>H<sub>40</sub>N<sub>2</sub>O<sub>9</sub>•7H<sub>3</sub>O<sub>4</sub>P mw: 1294.75

#### TOXICITY DATA with REFERENCE:

ivn-rat LD50:28 mg/kg JPETAB 138,78,62

**SAFETY PROFILE:** Poison by intravenous route. Experimental reproductive effects. When heated to decomposition it emits toxic fumes of PO<sub>x</sub> and NO<sub>x</sub>. See also RESERPINE.

**RDK075 CAS: 64741-67-9 HR: D**

**RESIDUES (PETROLEUM), CATALYTIC REFORMER FRACTIONATOR****SYN:** KERMAC 218A**TOXICITY DATA with REFERENCE:**

mmo-sat 10 µL/plate EPASR\* 8EHQ-0280-0333

**CONSENSUS REPORTS:** Reported in EPA TSCA Inventory.**SAFETY PROFILE:** Mutation data reported. When heated to decomposition it emits acrid smoke and irritating vapors.**RDK100 CAS: 64741-80-6 HR: 3  
RESIDUES (PETROLEUM), THERMAL CRACKED****SYN:** THERMALLY CRACKED RESIDUE**CONSENSUS REPORTS:** IARC Cancer Review: Group 2A IMEMDT 45,39,89; Animal Sufficient Evidence IMEMDT 45,39,89. Reported in EPA TSCA Inventory.**SAFETY PROFILE:** Confirmed carcinogen. When heated to decomposition it emits acrid smoke and irritating vapors.**RDK200 CAS: 64741-56-6 HR: 2  
RESIDUES (PETROLEUM), VACUUM****SYN:** VACUUM RESIDUUM (PETROLEUM)**TOXICITY DATA with REFERENCE:**

orl-rat LD:&gt;5 g/kg JACTDZ 1,135,90

skn-rbt LD:&gt;2 g/kg JACTDZ 1,135,90

**CONSENSUS REPORTS:** Reported in EPA TSCA Inventory.**SAFETY PROFILE:** Moderately toxic by skin contact. Low toxicity by ingestion. When heated to decomposition it emits acrid smoke and irritating vapors.**RDP000 HR: 3  
RESIN (solution)****DOT:** UN 1866**SYNS:** RESIN SOLUTION, flammable (DOT) □ SOLUBOND 0-869 □ SOLUBOND 3520**DOT CLASSIFICATION:** 3; Label: Flammable Liquid**SAFETY PROFILE:** Flammable when exposed to heat or flame, can react vigorously with oxidizing materials. When heated to decomposition it emits acrid smoke and irritating fumes.**RDP100 CAS: 57444-62-9 HR: 3  
RESINIFERATOXIN**mf: C<sub>37</sub>H<sub>40</sub>O<sub>9</sub> mw: 628.72**SYN:** BENZENEACETIC ACID, 4-HYDROXY-3-METHOXY-, (3A,3B,6,6A,9A,10,11,11A-OCTAHYDRO-6A-HYDROXY-8,10-DIMETHYL-11A-(1-METHYLETHENYL)-7-OXO-2-(PHENYL-METHYL)-7H-2,9B-EPOXYAZULENO (5,4-E)-1,3-BENZODIOX-OL-5-YL)-METHYL ESTER, (2S,3AR,3BS,6AR,9AR,9BR,10R,11AR)-**TOXICITY DATA with REFERENCE:**

ice-unr TDLo: 50 ng/kg EJPHAZ 422,185,2001

**SAFETY PROFILE:** A poison by intracerebral route. When heated to decomposition it emits acrid smoke and irritating vapors.**RDP300 CAS: 99-30-9 HR: 3  
RESISAN**mf: C<sub>6</sub>H<sub>4</sub>Cl<sub>2</sub>N<sub>2</sub>O<sub>2</sub> mw: 207.02**PROP:** Yellow needles from EtOH. Mp: 189–190°.**SYNS:** AL-50 □ ALLISAN □ BORTAN □ BOTRAN □ CDNA □ CNA □ DCNA □ DCNA (fungicide) □ DICHLORAN □ DICHLORAN (amine fungicide) □ 2,6-DICHLORO-4-NITROANILIN (CZECH) □ 2,6-DICHLORO-4-NITROANILINE □ 2,6-DICHLORO-4-NITROBENZENAMINE (9CI) □ DICLORAN □ DITRANIL □ 4-NITROANILINE, 2,6-DICHLORO- □ RD-6584 □ U-2069**TOXICITY DATA with REFERENCE:**

mmo-asn 14 µmol/L PHYTAJ 66,217,76

sln-asn 38 µmol/L EVHPAZ 31,81,79

orl-rat LD50:2400 mg/kg TSCAT\* OTS 206512

orl-mus LD50:1500 mg/kg PCOC\*\* -,343,66

ivn-mus LD50:56 mg/kg CSLNX\* NX#03022

orl-gpg LD50:1450 mg/kg PCOC\*\* -,343,66

**CONSENSUS REPORTS:** EPA Genetic Toxicology Program. Reported in EPA TSCA Inventory.**SAFETY PROFILE:** Poison by intravenous route. Moderately toxic by ingestion. Questionable carcinogen with experimental tumorigenic data. Mutation data reported. Used as a fungicide. When heated to decomposition it emits toxic fumes of Cl<sup>-</sup> and NO<sub>x</sub>.**RDU000 CAS: 63-56-9 HR: 3  
RESISTAB**mf: C<sub>16</sub>H<sub>22</sub>N<sub>4</sub>O•ClH mw: 322.88**PROP:** A solid. Mp: 173–176°.**SYNS:** ANAHIST □ ANDHIST □ 2-((2-(DIMETHYLAMINO)-ETHYL)(p-METHOXY-BENZYL)AMINO)-PYRIMIDINE HYDROCHLORIDE □ N,N-DIMETHYL-N'-(4-METHOXYBENZYL)-N'-(2-PYRIMIDYL)ETHYLENEDIAMINE HYDROCHLORIDE □ N-p-METHOXYBENZYL-N',N'-DIMETHYL-N-2-PYRIMIDINYL-ETHYLENE DIAMINE HYDROCHLORIDE □ NEOHETRAMINE HYDROCHLORIDE □ NH 188 □ NOVOHETRAMIN □ THONZYLAMINE HYDROCHLORIDE □ THONZYL-AMINIUM CHLORIDE**TOXICITY DATA with REFERENCE:**

orl-mus LD50:245 mg/kg NIIRDN 6,536,82

ipr-mus LD50:110 mg/kg AIPTAK 123,419,60

orl-gpg LD50:493 mg/kg NIIRDN 6,536,82

ivn-gpg LD50:38,200 µg/kg AIPTAK 113,313,58

**SAFETY PROFILE:** Poison by ingestion, intravenous, and intraperitoneal routes. Used as an antihistamine. When heated to decomposition it emits very toxic fumes of HCl and NO<sub>x</sub>.**RDZ875 CAS: 35764-59-1 HR: 3  
(+) -cis-RESMETHRIN**mf: C<sub>22</sub>H<sub>26</sub>O<sub>3</sub> mw: 338.48**PROP:** White powder. Insol in water.**SYNS:** 5-BENZYL-3-FURYL METHYL (+)-cis-CHRYSANthem-ATE □ CISMETHRIN □ NRDC 119**TOXICITY DATA with REFERENCE:**

orl-rat LD50:63 mg/kg PCBPBS 2,308,72

ivn-rat LDLo:6 mg/kg ARTODN 45,325,80

orl-mus LD50:152 mg/kg EVHPAZ 14,15,76

**SAFETY PROFILE:** Poison by ingestion and intravenous routes. When heated to decomposition it emits acrid smoke and irritating fumes. See also ESTERS.**RDZ885 CAS: 33911-28-3 HR: 2**

**(-)-trans-RESMETHRIN**mf: C<sub>22</sub>H<sub>26</sub>O<sub>3</sub> mw: 338.48**SYN:** CYCLOPROPANECARBOXYLIC ACID, 2,2-DIMETHYL-3-(2-METHYLPROPENYL)-, (5-BENZYL-3-FURYL) METHYL ESTER, (-)-(E)-**TOXICITY DATA with REFERENCE:**ivn-rat LD: $>606$  mg/kg ARTODN 45,325,80

orl-mus LD50:500 mg/kg EVHPAZ 14,15,76

**SAFETY PROFILE:** Moderately toxic by ingestion and intravenous routes. When heated to decomposition it emits acrid smoke and irritating vapors.**RDZ900 CAS: 102-29-4 HR: 3  
RESORCIN MONOACETATE**mf: C<sub>8</sub>H<sub>8</sub>O<sub>3</sub> mw: 152.16**PROP:** Oil. Bp: 283°, d: 1.226, flash p:  $>230^{\circ}\text{F}$ .**SYNS:** 3-ACETOXYPHENOL □ ACETYLRERSCINOL □ 1,3-BENZENEDIOL, MONOACETATE □ EURESOL □ m-HYDROXYPHENYL ACETATE □ REMONOL □ RESORCIN ACETATE □ RESORCINOL, MONOACETATE □ RESORCITATE**TOXICITY DATA with REFERENCE:**

eye-rbt 5% SEV JAPMA8 46,185,57

ipr-mus LD50:400 mg/kg JAPMA8 46,185,57

**CONSENSUS REPORTS:** Reported in EPA TSCA Inventory.**SAFETY PROFILE:** Poison by intraperitoneal route. A severe eye irritant. Combustible liquid. When heated to decomposition it emits acrid smoke and irritating fumes.**REA000 CAS: 108-46-3 HR: 3  
RESORCINOL****DOT:** UN 2876mf: C<sub>6</sub>H<sub>6</sub>O<sub>2</sub> mw: 110.12C<sub>6</sub>H<sub>4</sub>(OH)<sub>2</sub>**PROP:** Platelets from EtOH. Very white crystals, become pink on exposure to light when not perfectly pure; unpleasant sweet taste. Mp: 110°, bp: 280.5°, flash p: 261°F (CC), d: 1.285 @ 15°, autoign temp: 1126°F, vap press: 1 mm @ 108.4°, vap d: 3.79. Very sol in alc, ether, glycerin; sltly sol in chloroform; sol in water.**SYNS:** m-BENZENEDIOL □ 1,3-BENZENEDIOL □ C.I. 76505 □ C.I. DEVELOPER 4 □ C.I. OXIDATION BASE 31 □ DEVELOPER R □ m-DIHYDROXYBENZENE □ 1,3-DIHYDROXYBENZENE □ m-DIOXYBENZENE □ DURAFUR DEVELOPER G □ FOURAMINE RS □ FOURRINE 79 □ m-HYDROQUINONE □ 3-HYDROXYCYCLOHEXADIEN-1-ONE □ m-HYDROXYPHENOL □ 3-HYDROXYPHENOL □ NAKO TGG □ NCI-C05970 □ PELAGOL GREY RS □ RCRA WASTE NUMBER U201 □ RESORCIN □ RESORCINE**TOXICITY DATA with REFERENCE:**

skn-rbt 500 mg IHFCAY 6,1,67

eye-rbt 100 mg SEV BIOFX\* 11-4/70

mma-sat 20 μmol/plate MUREAV 90,91,81

mrc-smc 1 g/L MUREAV 135,109,84

cyt-hmn:lym 80 mg/L ARZNAD 32,533,82

cyt-hmn:oth 40 mg/L ARZNAD 32,533,82

orl-hmn LDLo:29 mg/kg 34ZIAG -,519,69

orl-rat LD50:301 mg/kg BIOFX\* 11-4/70

scu-rat LDLo:400 mg/kg RMSRA6 15,561,1895

ipr-mus LD50:215 mg/kg BEXBAN 61,291,66

scu-mus LD50:213 mg/kg ZGIMAL 2,333,47

skn-rbt LD50:3360 mg/kg AIHAAP 37,596,76

scu-gpg LDLo:400 mg/kg RMSRA6 15,561,1895

par-frg LDLo:270 mg/kg AEPPAE 166,437,32

**CONSENSUS REPORTS:** IARC Cancer Review:

Group 3 IMEMDT 7,56,87; Animal Inadequate Evidence IMEMDT 15,155,77. Reported in EPA TSCA Inventory. EPA Genetic Toxicology Program.

**OSHA PEL:** TWA 10 ppm; STEL 20 ppm**ACGIH TLV:** TWA 10 ppm; STEL 20 ppm; Not Classifiable as a Human Carcinogen**DOT CLASSIFICATION:** 6.1; Label: KEEP AWAY FROM FOOD**SAFETY PROFILE:** Human poison by ingestion. Experimental poison by ingestion, intraperitoneal, parenteral, and subcutaneous routes. Moderately toxic experimentally by skin contact and intravenous routes. Questionable carcinogen with experimental tumorigenic data. Human mutation data reported. A skin and severe eye irritant. It can cause systemic poisoning by acting as both a blood and nerve poison. In a suitable solvent, this material can readily be absorbed through human skin and can cause local hyperemia, itching, dermatitis, edema, and corrosion associated with enlargement of regional lymph glands as well as serious systemic disorders such as restlessness, methemoglobinemia, cyanosis, convulsions, tachycardia, dyspnea, and death. These same symptoms can be induced by ingestion of the material. For poisoning, treat symptomatically. Get medical advice. Used as a topical antiseptic and keratolytic agent.Combustible when exposed to heat or flame; can react with oxidizing materials. To fight fire, use water, CO<sub>2</sub>, dry chemical. Potentially explosive reaction with concentrated nitric acid. Incompatible with acetanilide, alkalies, ferric salts, spirit nitrous ether, urethan. When heated to decomposition it emits acrid smoke and irritating fumes.**REA050 CAS: 57583-54-7 HR: 1  
RESORCINOL BIS(DIPHENYL PHOSPHATE)**mf: C<sub>30</sub>H<sub>24</sub>O<sub>8</sub>P<sub>2</sub> mw: 574.48**SYNS:** CRR-733S □ FYROLFLEX RDP □ MARK PFK □ OLIGOMERIC PHOSPHATE ESTER □ m-PHENYLENEBIS-(DIPHENYL PHOSPHATE) □ 1,3-PHENYLENE TETRAPHENYL PHOSPHATE □ PHOSPHORIC ACID, 1,3-PHENYLENE TETRAPHENYL ESTER □ PMN 89-234 □ TETRAPHENYLRESORCINOL DIPHOSPHATE**TOXICITY DATA with REFERENCE:**orl-rat LD50: $>5$  g/kg NTIS\*\* OTS0516678ihl-rat LC50: $>4860$  mg/m<sup>3</sup> NTIS\*\* OTS0516678skn-rat LD50: $>2$  g/kg NTIS\*\* OTS0516678**SAFETY PROFILE:** Low toxicity by ingestion, inhalation, and skin contact. When heated to decomposition it emits toxic vapors of PO<sub>x</sub>.**REA100 CAS: 108-58-7 HR: 2  
RESORCINOL, DIACETATE**mf: C<sub>10</sub>H<sub>10</sub>O<sub>4</sub> mw: 194.20**PROP:** A liquid. Bp: 278, d: 1.178.**SYNS:** 1,3-BENZENEDIOL, DIACETATE □ 1,3-DIACETOXY-BENZENE □ 1,3-DIHYDROXYBENZENE DIACETATE □ m-PHENYLENEDIACETATE**TOXICITY DATA with REFERENCE:**

eye-rbt 5% SEV JAPMA8 46,185,57

ipr-mus LD50:660 mg/kg JAPMA8 46,185,57

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

**SAFETY PROFILE:** Moderately toxic by intraperitoneal route. A severe eye irritant. When heated to decomposition it emits acrid smoke and irritating fumes.

**REA200 CAS: 1129-88-0 HR: 1  
RESORCINOL DICYANATE**

mf:  $C_8H_4N_2O_2$  mw: 160.14

**SYNS:** CYANIC ACID, m-PHENYLENE ESTER □ CYANIC ACID, 1,3-PHENYLENE ESTER □ 1,3-PHENYLENE CYANATE □ RDX 76679 □ RESORCY

**TOXICITY DATA with REFERENCE:**

skn-rbt 500  $\mu$ L/24H MLD NTIS\*\* OTS0571351

orl-rat LDLo:5 g/kg NTIS\*\* OTS0571351

skn-rbt LD  $>5200$  mg/kg NTIS\*\* OTS0571351

**SAFETY PROFILE:** Low toxicity by ingestion and skin contact. A mild skin irritant. When heated to decomposition it emits toxic vapors of  $NO_x$ .

**REF000 CAS: 101-90-6 HR: 3  
RESORCINOL DIGLYCIDYL ETHER**

mf:  $C_{12}H_{14}O_4$  mw: 222.26

**SYNS:** ARALDITE ERE 1359 □ m-BIS(2,3-EPOXYPROPOXY)-BENZENE □ 1,3-BIS(2,3-EPOXYPROPOXY)BENZENE □ m-BIS(GLYCIDYLOXY)BENZENE □ 1,3-DIGLYCIDYLOXY-BENZENE □ DIGLYCIDYL RESORCINOL ETHER □ ERE 1359 □ NCI-C54966 □ 2,2'-(1,3-PHENYLENEBIS(OXYMETHYLENE))-BISOXIRANE □ RDGE □ RESORCINOL BIS(2,3-EPOXYPROPYL)ETHER □ RESORCINYL DIGLYCIDYL ETHER

**TOXICITY DATA with REFERENCE:**

skn-rbt 500 mg/24H MOD AMIHAB 17,129,58

mno-sat 50  $\mu$ g/plate MUREAV 135,159,84

sln-dmg-orl 5 pph ENMUDM 7,325,85

trn-dmg-orl 5 pph ENMUDM 7,325,85

cyt-ham:ovr 8 mg/L MUREAV 135,159,84

orl-rat LD50:2570 mg/kg AMIHAB 17,129,58

ipr-rat LD50:178 mg/kg AMIHAB 17,129,58

orl-mus LD50:980 mg/kg AMIHAB 17,129,58

ipr-mus LD50:243 mg/kg AMIHAB 17,129,58

orl-rbt LD50:1240 mg/kg AMIHAB 17,129,58

**CONSENSUS REPORTS:** NTP 10th Report on Carcinogens. IARC Cancer Review: Group 2B IMEMDT 7,56,87; Animal Sufficient Evidence IMEMDT 36,181,85; Animal Inadequate Evidence IMEMDT 11,125,76. NTP Carcinogenesis Studies (gavage); Clear Evidence: mouse, rat NTPTR\* NTP-TR-257,86. Reported in EPA TSCA Inventory.

**DFG MAK:** Animal Carcinogen, Suspected Human Carcinogen

**SAFETY PROFILE:** Confirmed carcinogen with experimental carcinogenic and tumorigenic data. Poison by intraperitoneal route. Moderately toxic by ingestion. Mutation data reported. A skin irritant. When heated to decomposition it emits acrid smoke and irritating fumes. See also ETHERS.

**REF025 CAS: 151-10-0 HR: 2  
RESORCINOL DIMETHYL ETHER**

mf:  $C_8H_{10}O_2$  mw: 138.13

**SYNS:** BENZENE, m-DIMETHOXY- □ BENZENE, 1,3-DIMETHOXY- □ m-DIMETHOXYBENZENE □ 1,3-DIMETHOXYBENZENE □ DIMETHYLETHER RESORCINOL □ 3-METHOXYANISOLE

**TOXICITY DATA with REFERENCE:**

ipr-mus LD50:900 mg/kg JAPMA8 46,185,57

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

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

**REF050 CAS: 150-19-6 HR: 3  
RESORCINOL MONOMETHYL ETHER**

mf:  $C_7H_8O_2$  mw: 124.15

**PROP:** Oil. Bp: 244°.

**SYNS:** m-GUAIACOL □ m-HYDROXYANISOLE □ 3-HYDROXYANISOLE □ m-METHOXYPHENOL □ 3-METHOXYPHENOL □ RESORCINOL METHYL ETHER

**TOXICITY DATA with REFERENCE:**

eye-rbt 5% SEV JAPMA8 46,185,57

ihl-hmn TCLo:230  $\mu$ g/ $m^3$ /22:CNS GISAAA 37(3),108,72

orl-rat LD50:597 mg/kg GISAAA 37(3),108,72

ihl-rat LC50:11,500 mg/ $m^3$ /4H 85GMAT -,105,82

skn-rat LD50:682 mg/kg GISAAA 37(3),108,72

orl-mus LD50:312 mg/kg GISAAA 37(3),108,72

ihl-mus LC50:11,500 mg/ $m^3$ /4H 85GMAT -,105,82

ipr-mus LD50:320 mg/kg JAPMA8 46,185,57

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

**SAFETY PROFILE:** Poison by ingestion and intraperitoneal routes. Moderately toxic by skin contact. Human systemic effects by inhalation: muscle weakness, headache, and irritability. Human female reproductive effects by inhalation: menstrual cycle changes and disorders. A severe eye irritant. When heated to decomposition it emits acrid smoke and irritating fumes. See also ETHERS.

**REF070 CAS: 2479-46-1 HR: 2  
RESORCINOL OXYDIANILINE**

mf:  $C_{18}H_{16}N_2O_2$  mw: 292.36

**SYNS:** ANILINE, p,p'-(m-PHENYLENEDIOXY)DI- □ BENZENAMINE, 4,4'-(1,3-PHENYLENEBIS(OXY))BIS- □ 1,3-BIS(4-AMINOPHENOXY)BENZENE □ 1,3-PHENYLENE-DI-4-AMINOPHENYL ETHER □ 4,4'-(m-PHENYLENEDIOXY)DIANILINE

**TOXICITY DATA with REFERENCE:**

mno-sat 100  $\mu$ g/plate SAIGBL 24,498,82

dns-rat:lvrl 10  $\mu$ mol/L MUREAV 204,683,88

orl-rat LDLo:690 mg/kg EPASR\* 8EHQ-0790-0898S

**SAFETY PROFILE:** Moderately toxic by ingestion. Mutation data reported. When heated to decomposition it emits toxic vapors of  $NO_x$ .

**REF100 CAS: 95-01-2 HR: 3  
 $\beta$ -RESORCYLALDEHYDE**

mf:  $C_7H_6O_3$  mw: 138.13

**SYNS:** BENZALDEHYDE, 2,4-DIHYDROXY- □ 2,4-DIHYDROXYBENZALDEHYDE □ 2,4-DIHYDROXYBENZENECARBONAL □ 4-FORMYLRESORCINOL □ 4-HYDROXYSALICYLALDEHYDE

□  $\beta$ -RESORCALDEHYDE □  $\beta$ -RESORCINALDEHYDE □  $\beta$ -RESORCYLIC ALDEHYDE

**TOXICITY DATA with REFERENCE:**

orl-mus LD50:1380 mg/kg IJANDP 10,741,87

ipr-mus LD50:200 mg/kg IJOAP 14,449,76

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

**SAFETY PROFILE:** Poison by intraperitoneal route. Moderately toxic by ingestion. When heated to decomposition it emits acrid smoke and irritating vapors.

**REF200 CAS: 99-10-5 HR: 2**  
 **$\alpha$ -RESORCYLIC ACID**

mf:  $C_7H_6O_4$  mw: 154.13

**SYNS:** BENZOIC ACID, 3,5-DIHYDROXY-(9CI) □ 5-CARBOXY-RESORCINOL □ 3,5-DIHYDROXYBENZOIC ACID

**TOXICITY DATA with REFERENCE:**

ivn-mus LD50:2000 mg/kg PMDCAY 5,59,67

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

**SAFETY PROFILE:** Moderately toxic by intravenous route. When heated to decomposition it emits acrid smoke and irritating vapors.

**REF250 CAS: 68359-37-5 HR: 3**  
**RESPONSAR**

mf:  $C_{22}H_{18}Cl_2FNO_3$  mw: 434.31

**SYNS:** BAY FCR 1272 □ BAYTHROID □ BAYTHROID H □ CYCLOPROPANECARBOXYLIC ACID, 2-(2-DICHLOROVINYL)-3,3-DIMETHYL-, ESTER WITH (4-FLUORO-3-PHENOXYPHENYL)HYDROXYACETONITRILE □ CYFLUTHIN □ CYFLUTHRIN □ CYFLUTHRINE □ CYFOXYLATE □ EULAN SP □ FCR 1272 □ SOLFAC □ TEMPO

**TOXICITY DATA with REFERENCE:**

orl-rat LD50:900 mg/kg FMCHA2 -,C39,91

ihl-rat LC50:469 g/m<sup>3</sup>/4H PEMNDP 9,198,91

skn-rat LD50:>5 g/kg PEMNDP 9,198,91

orl-mus LD50:300 mg/kg 85ESA3 11,432,89

orl-dog LD50:500 mg/kg PEMNDP 9,198,91

orl-ckn LD50:5 g/kg PEMNDP 9,198,91

orl-brd-dom LD50:250 mg/kg PEMNDP 9,198,91

**SAFETY PROFILE:** A poison by ingestion and inhalation routes. Low toxicity by skin contact. When heated to decomposition it emits toxic vapors of NO<sub>x</sub>, F<sup>-</sup>, and Cl<sup>-</sup>.

**REF260 CAS: 81811-55-4 HR: D**  
**RESTRICTION ENDODEOXYRIBONUCLEASE HINCII**

**SYNS:** NUCLEASE, RESTRICTION ENDODEOXYRIBO-, HINCII □ RESTRICTION ENDONUCLEASE HINCII

**TOXICITY DATA with REFERENCE:**

msc-ham-ovr 20 units MUREAV 326,83,95

**SAFETY PROFILE:** Mutation data reported. When heated to decomposition it emits acrid smoke and irritating vapors.

**REF262 CAS: 81295-22-9 HR: D**  
**RESTRICTION ENDODEOXYRIBONUCLEASE HINDIII**

**SYNS:** E.C. 3.1.23.21 □ ENDODEOXYRIBONUCLEASE BBRI □ ENDODEOXYRIBONUCLEASE CHUI □ ENDODEOXYRIBONUCLEASE HINBIII □ ENDODEOXYRIBONUCLEASE HINDIII □ ENDODEOXYRIBONUCLEASE HINFII □ ENDODEOXYRIBONUCLEASE HSUI □ NUCLEASE, RESTRICTION ENDO-DEOXYRIBO-, HINDIII □ RESTRICTION ENDONUCLEASE ECOVII □ RESTRICTION ENDONUCLEASE HINDIII

**TOXICITY DATA with REFERENCE:**

msc-ham-ovr 100 units MUREAV 326,83,95

**SAFETY PROFILE:** Mutation data reported. When heated to decomposition it emits acrid smoke and irritating vapors.

**REF265 CAS: 114704-98-2 HR: D**  
**RESTRICTION ENDONUCLEASE MSEI**

**SYNS:** NUCLEASE, RESTRICTION ENDODEOXYRIBO-, MSEI □ RESTRICTION ENDODEOXYRIBONUCLEASE MSEI □ RESTRICTION ENDONUCLEASE TRU9I

**TOXICITY DATA with REFERENCE:**

msc-ham-ovr 10 units MUREAV 326,83,95

**SAFETY PROFILE:** Mutation data reported. When heated to decomposition it emits acrid smoke and irritating vapors.

**REF270 CAS: 80449-06-5 HR: D**  
**RESTRICTION ENDONUCLEASE RSAI**

**SYNS:** ENDODEOXYRIBONUCLEASE RSAI □ NUCLEASE, RESTRICTION ENDODEOXYRIBO-, RSAI □ RSAI

**TOXICITY DATA with REFERENCE:**

cyt-ham-ovr 20 units MUREAV 197,141,88

msc-ham-ovr 20 units MUREAV 326,83,95

**SAFETY PROFILE:** Mutation data reported. When heated to decomposition it emits acrid smoke and irritating vapors.

**REK325 HR: 1**  
**RESURRECTION LILY**

**PROP:** Bulb-producing plant with long-thin leaves that grow directly from the bulb. The leaves die before flowers are borne on a tall, leafless stalk. A seed capsule contains a few black seeds.

**SYNS:** GOLDEN HURRICANE LILY □ GOLDEN SPIDER LILY □ LYCORIS AFRICANA □ LYCORIS RADIATA □ LYCORIS SQUAMIGERA □ MAGIC LILY □ RED SPIDER LILY □ SPIDER LILY

**SAFETY PROFILE:** The bulbs contain low concentrations of the poison lycorine. Ingestion of large amounts of the bulbs may cause nausea, persistent vomiting, and diarrhea.

**REK330 CAS: 33631-41-3 HR: 2**  
**RETINOIC ACID ETHYL AMIDE**

mf:  $C_{22}H_{33}NO$  mw: 327.56

**SYNS:** ALL-trans-N-ETHYLRETINAMIDE □ ER □ ETHYL RETINAMIDE □ N-ETHYLRETINAMIDE □ RETINAMIDE, N-ETHYL- □ RETINAMIDE, N-ETHYL-, ALL-trans-

**SAFETY PROFILE:** Questionable carcinogen with experimental carcinogenic data. Experimental reproductive effects. When heated to decomposition it emits toxic vapors of NO<sub>x</sub>.

**REK350 CAS: 33631-47-9 HR: D  
RETINOIC ACID 2-HYDROXYETHYLAMIDE**mf:  $C_{22}H_{33}NO_2$  mw: 343.56**SYNS:** HER □ 2-HYDROXYETHYL RETINAMIDE □ N-(2-HYDROXYETHYL)RETINAMIDE □ RETINAMIDE, N-(2-HYDROXYETHYL)- □ RO 8-4969**SAFETY PROFILE:** Experimental reproductive effects. When heated to decomposition it emits toxic fumes of  $NO_x$ .**REP400 CAS: 55079-83-9 HR: D  
RETINOID ETRETIN**mf:  $C_{21}H_{26}O_3$  mw: 326.47**SYNS:** all-trans-3,7-DIMETHYL-9-(4-METHOXY-2,3,6-TRIMETHYLPHENYL)-2,4,6,8-NONATETRAENOIC ACID □ ETRETIN □ (all-E)-9-(4-METHOXY-2,3,6-TRIMETHYLPHENYL)-3,7-DIMETHYL-2,4,6,8-NONATETRAENOIC ACID □ RO 10-1670**SAFETY PROFILE:** An experimental teratogen. Experimental reproductive effects. When heated to decomposition it emits acrid smoke and irritating fumes.**REZ200 HR: D  
all-trans-RETINYLIDENE METHYL NITRONE**mf:  $C_{21}H_{31}NO$  mw: 313.53**SAFETY PROFILE:** An experimental teratogen. Experimental reproductive effects. When heated to decomposition it emits toxic fumes of  $NO_x$ .**RFK000 CAS: 875-22-9 HR: 2  
RETRONECINE HYDROCHLORIDE**mf:  $C_8H_{13}NO_2 \cdot ClH$  mw: 191.68**TOXICITY DATA with REFERENCE:**

ipr-rat LDLo:600 mg/kg NATUAS 185,842,60

scu-rat LDLo:1000 mg/kg JNCIAM 49,665,72

**SAFETY PROFILE:** Moderately toxic by intraperitoneal and subcutaneous routes. Questionable carcinogen with experimental tumorigenic data. When heated to decomposition it emits very toxic fumes of  $NO_x$  and HCl.**RFK100 CAS: 139257-77-5 HR: D  
4,14-RETRO-RETINOL-14-HYDROXY-, (14R)-**mf:  $C_{20}H_{30}O_2$  mw: 302.50**SYNS:** 14-HYDROXY-4,14-RETRO-RETINOL □ 14(R)-HYDROXY-RETRO-VITAMIN A □ (14R)-4,14-RETRO-RETINOL-14-HYDROXY-**SAFETY PROFILE:** Experimental reproductive effects. When heated to decomposition it emits acrid smoke and irritating vapors.**RFP000 CAS: 480-54-6 HR: 3  
RETRORSINE**mf:  $C_{18}H_{25}NO_6$  mw: 351.44**PROP:** Crystals from ethyl acetate. Mp: 217°. Readily sol in alc and chloroform; sltly sol in water, acetone, and ethyl acetate; practically insol in ether.**SYNS:** 12,18-DIHYDROXY-SENECIONAN-11,16-DIONE □ β-LONGILOBINE □ cis-RETRONECIC ACID ESTER of RETRONECINE**TOXICITY DATA with REFERENCE:**

ctr-ham:kdy 25 µg/L CRNGDP 1,161,80

sln-dmg-par 10 mmol/L JOGNAU 59,273,66

orl-rat LDLo:30 mg/kg JPBA7 78,471,59

ipr-rat LD50:34 mg/kg CBINA8 5,227,72

ivn-rat LD50:38 mg/kg RETOAE 5,53,49

ivn-mus LD50:59 mg/kg RETOAE 5,53,49

orl-mam LDLo:33 mg/kg PAREAQ 22,429,70

**CONSENSUS REPORTS:** IARC Cancer Review: Group 3 IMEMDT 7,56,87; Animal Limited Evidence IMEMDT 10,303,76.**SAFETY PROFILE:** Poison by ingestion, intraperitoneal, and intravenous routes. Questionable carcinogen with experimental neoplastigenic and tumorigenic data. Mutation data reported. When heated to decomposition it emits toxic fumes of  $NO_x$ .**RFP100 CAS: 15503-87-4 HR: 3  
trans-RETRORSINE**mf:  $C_{18}H_{25}NO_6$  mw: 351.44**SYNS:** MUCRONATINE □ (15E)-RETRORSINE □ SENE-CIONAN-11,16-DIONE, 12,18-DIHYDROXY-, (15E)- □ USARAMIN □ USARAMINE □ (+)-URSAMINE**TOXICITY DATA with REFERENCE:**

ipr-rat LDLo:35 mg/kg CBINA8 12,299,1976

ipr-mus LD50:300 mg/kg IJEBA6 7,144,1969

**SAFETY PROFILE:** A poison by intraperitoneal route. When heated to decomposition it emits toxic vapors of  $NO_x$ .**RFU000 CAS: 15503-86-3 HR: 3  
RETRORSINE-N-OXIDE**mf:  $C_{18}H_{25}NO_7$  mw: 367.44**PROP:** Crystals from ethanol. Mp: 145°.**SYNS:** ISATIDINE □ cis-RETRONECIC ACID ESTER of RETRONECINE-N-OXIDE**TOXICITY DATA with REFERENCE:**

sln-dmg-par 10 mmol/L JOGNAU 59,273,66

orl-rat LD50:48 mg/kg CBINA8 5,227,72

ipr-rat LD50:250 mg/kg CBINA8 5,227,72

ivn-mus LD50:835 mg/kg JPETAB 75,83,42

**CONSENSUS REPORTS:** IARC Cancer Review: Group 3 IMEMDT 7,56,87; Animal Sufficient Evidence IMEMDT 10,269,76.**SAFETY PROFILE:** Poison by ingestion and intraperitoneal routes. Moderately toxic by intravenous route. Questionable carcinogen with experimental neoplastigenic and tumorigenic data. Mutation data reported. When heated to decomposition it emits toxic fumes of  $NO_x$ . See also ESTERS.**RFU100 CAS: 3144-16-9 HR: 2  
REYCHLER'S ACID**mf:  $C_{10}H_{16}O_4S$  mw: 232.32**SYNS:** BICYCLO(2.2.1)HEPTANE-1-METHANESULFONIC ACID, 7,7-DIMETHYL-2-OXO-, (1S)-(-9CI) □ 10-BORNANE-SULFONIC ACID, 2-OXO-, (1S,4R)-(+)- □ CAMPHERSULFO-SAEURE □ CAMPHORSULFONIC ACID □ (+)-CAMPHORSULFONIC ACID □ (+)-β-CAMPHORSULFONIC ACID □ d-CAMPHORSULFONIC ACID □ d-10-CAMPHORSULFONIC ACID**TOXICITY DATA with REFERENCE:**

scu-mus LD50:2502 mg/kg PHARAT 1,150,46

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

**SAFETY PROFILE:** Moderately toxic by subcutaneous route. When heated to decomposition it emits toxic vapors of SO<sub>x</sub>.

**RFU600**                      **CAS: 55102-44-8**                      **HR: 3**  
**RFCNU**

mf: C<sub>18</sub>H<sub>21</sub>ClN<sub>4</sub>O<sub>9</sub>                      mw: 472.88

**PROP:** A solid. Mp: 100–103°.

**SYNS:** (CHLORO-2-ETHYL)-1-(RIBOFURANOSYLISOPROPYLIDENE-2'-3'-PARANITROBENZOATE-5')-3-NITROSOUREA □ (CHLORO-2-ETIL)-1-(RIBOFURANOSILISOPROPILIDENE-2',3'-PARANITROBENZOATO)-3-NITROSOUREA □ I.C.I.G. 1105

**TOXICITY DATA with REFERENCE:**

mmo-sat 200 µg/plate                      INSSDM 19,165,81

dns-hmn:lym 10 mg/L                      FRPSAX 36,947,81

dni-hmn:lym 10 mg/L                      FRPSAX 36,947,81

oms-mus:oth 2 mg/L                      INSSDM 19,229,81

ipr-mus LD50:90 mg/kg                      INSSDM 19,123,81

**SAFETY PROFILE:** Poison by intraperitoneal route. Human mutation data reported. Many N-nitroso compounds are carcinogens. When heated to decomposition it emits toxic fumes of Cl<sup>−</sup> and NO<sub>x</sub>. See also N-NITROSO COMPOUNDS.

**RFU800**                      **CAS: 69579-13-1**                      **HR: 3**  
**RGH-5526**

mf: C<sub>16</sub>H<sub>25</sub>N<sub>5</sub>O<sub>3</sub>                      mw: 335.46

**SYNS:** GYKI 11679 □ 1-(6-MORPHOLINO-3-PYRIDAZINYL)-2-(1-(tert-BUTOXYCARBONYL)-2-PROPYLIDENE)HYDRAZINE □ 3-((6-(4-MORPHOLINYL)-3-PYRIDAZINYL)HYDRAZONO)BUTANOIC ACID 1,1-DIMETHYL ETHYL ESTER

**TOXICITY DATA with REFERENCE:**

orl-rat LD50:970 mg/kg                      DRFUD4 10,32,85

ivn-rat LD50:670 mg/kg                      DRFUD4 10,32,85

orl-dog LD50:300 mg/kg                      DRFUD4 10,32,85

**SAFETY PROFILE:** Poison by ingestion. Moderately toxic by intravenous route. When heated to decomposition it emits toxic fumes of NO<sub>x</sub>. See also ESTERS.

**RFU875**                      **HR: 3**  
**RHABDOPHIS TIGRINUS TIGRINUS VENOM**  
**SYNS:** VENOM, SNAKE, RHABDOPHIS TIGRINUS TIGRINUS  
**TOXICITY DATA with REFERENCE:**

scu-mus LD50:9200 µg/kg                      NJGKBV 15,7,83

ivn-mus LD50:265 µg/kg                      NJGKBV 15,7,83

ims-mus LD50:7350 µg/kg                      NJGKBV 15,7,83

**SAFETY PROFILE:** Poison by subcutaneous, intramuscular, and intravenous routes.

**RFZ000**                      **CAS: 6869-51-8**                      **HR: 3**  
**3-β(α-I-RHAMNOPYRANOSIDE)-5,11-α,14-β-TRIHYDROXY-5-β-CARD(20,22)ENOLIDE**

mf: C<sub>29</sub>H<sub>44</sub>O<sub>10</sub>                      mw: 552.73

**PROP:** Prisms from CHCl<sub>3</sub>/Et<sub>2</sub>O. Mp: 252–258°.

**SYNS:** BIPINDOGENIN-I-RHAMNOSID (GERMAN) □ LOCUNDIEZIDE □ LOCUNDIOSIDE □ LOKUNDJOSID (GERMAN) □ LOKUNDJOSIDE

**TOXICITY DATA with REFERENCE:**

orl-cat LD50:790 µg/kg                      RPTOAN 32,185,69

ivn-cat LD50:97 µg/kg                      RPTOAN 32,185,69

orl-pgn LD50:1860 µg/kg                      RPTOAN 32,185,69

ivn-pgn LD50:154 µg/kg                      RPTOAN 32,185,69

**SAFETY PROFILE:** A deadly poison by ingestion and intravenous routes. When heated to decomposition it emits acrid smoke and irritating fumes.

**RGA000**                      **CAS: 84775-95-1**                      **HR: 2**  
**RHATHANI**

**PROP:** Aqueous extract from the root of the plant (JNCIAM 52,1579,74).

**SYN:** KRAMERIA TRIANDRA

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

**RGF000**                      **CAS: 7440-15-5**                      **HR: 3**  
**RHENIUM**

af: Re                      aw: 186.20

**PROP:** Silvery-gray metal, gray powder. Hexagonal, close-packed crystals; black to silver gray. The metal resists oxidation but slowly tarnishes in air. Burns at high temp. Mp: 3170°, bp: approx 5630°, d: 21.02.

**TOXICITY DATA with REFERENCE:**

ipr-mus LD50:>10 g/kg                      GTPZAB 8(6),10,64

**SAFETY PROFILE:** Low toxicity by ingestion. No reported cases of human toxicity. Experimentally, the Re<sup>3+</sup> cation is more toxic than the ReO<sub>4</sub><sup>−</sup> anion.

Symptoms of Re<sup>3+</sup> poisoning in rats are sedation, abdominal irritation, and death from cardiovascular collapse. Symptoms of ReO<sub>4</sub><sup>−</sup> toxicity in rats include severe sedation and ataxia, tonic convulsions, and cardiovascular collapse. In cats, rhenium causes transient hypertension with tachycardia and transient auricular and ventricular fibrillations. In experimental animals, inhalation of rhenium dust causes pulmonary fibrosis.

Radiation Hazard: Natural (63%) isotope <sup>187</sup>Re, T<sub>1/2</sub> = 4 × 10<sup>10</sup> years, decays to stable <sup>187</sup>Os by betas of less than 0.10 MeV. Flammable in the form of dust when exposed to heat or flame. Violent reaction with F<sub>2</sub> @ 125°. Ignites in oxygen at 300°C. See also various rhenium compounds and RARE EARTHS.

**RGK000**                      **CAS: 12038-67-4**                      **HR: 3**  
**RHENIUM(VII) SULFIDE**

mf: Re<sub>2</sub>S<sub>7</sub>                      mw: 596.85

**PROP:** Dark brown or black amorphous powder which is difficult to purify completely. Readily loses sulfur on heating to give ReS<sub>2</sub>. Sol in oxidizing solvs.

**SAFETY PROFILE:** Will ignite spontaneously in air. When heated to decomposition it emits toxic fumes of SO<sub>x</sub>. See also SULFIDES and RHENIUM.

**RGP000**                      **CAS: 13569-63-6**                      **HR: 3**  
**RHENIUM TRICHLORIDE**

mf: Cl<sub>3</sub>Re                      mw: 292.55

**PROP:** Sol in Me<sub>2</sub>CO, MeOH, EtOH, HCl (aq).

**TOXICITY DATA with REFERENCE:**

ipr-mus LD50:280 mg/kg                      JPMSAE 57,321,68

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

**SAFETY PROFILE:** Poison by intraperitoneal route. When heated to decomposition it emits toxic fumes of  $\text{Cl}^-$ . See also RHENIUM and CHLORIDES.

**RGP450 CAS: 74195-73-6 HR: 3 RHINASPRAY**

mf:  $\text{C}_{13}\text{H}_{17}\text{N}_3 \cdot \text{ClH} \cdot \text{H}_2\text{O}$  mw: 269.81

**SYNS:** BICIRON □ 4,5-DIHYDRO-N-(4,6,7,8-TETRAHYDRO-1-NAPHTHALENYL)-1H-IMIDAZOL-2-AMINE HYDROCHLORIDE HYDRATE □ KB 227 □ RHINO GUTT □ RHINOSPRAY □ 2-((5,6,7,8-TETRAHYDRO-1-NAPHTHYL)AMINO)-2-IMIDAZOLINE HYDROCHLORIDE HYDRATE □ TOWK □ TRAMAZOLINE HYDROCHLORIDE MONOHYDRATE

**TOXICITY DATA with REFERENCE:**

orl-mus LD50:195 mg/kg ARZNAD 12,971,62

ipr-mus LD50:57 mg/kg ARZNAD 12,971,62

scu-mus LD50:77 mg/kg ARZNAD 12,971,62

**SAFETY PROFILE:** Poison by ingestion, subcutaneous, and intraperitoneal routes. An adrenergic agent. When heated to decomposition it emits toxic fumes of  $\text{NO}_x$  and  $\text{HCl}$ .

**RGP600 CAS: 62669-70-9 HR: D RHODAMINE 123**

mf:  $\text{C}_{21}\text{H}_{17}\text{N}_2\text{O}_3 \cdot \text{Cl}$  mw: 380.85

**SYNS:** 2-(6-AMINO-3-IMINO-3H-XANTHEN-9-YL)BENZOIC ACID METHYL ESTER MONOHYDROCHLORIDE □ BENZOIC ACID, 2-(6-AMINO-3-IMINO-3H-XANTHEN-9-YL)-, METHYL ESTER, MONOHYDROCHLORIDE □ 3,6-DIAMINO-9-(2-(METHOXYCARBONYL)PHENYL)XANTHYLIUM CHLORIDE □ RH 123 □ XANTHYLIUM, 3,6-DIAMINO-9-(2-(METHOXYCARBONYL)PHENYL)-, CHLORIDE

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

**SAFETY PROFILE:** Experimental reproductive effects. When heated to decomposition it emits toxic vapors of  $\text{NO}_x$  and  $\text{Cl}^-$ .

**RGW000 CAS: 989-38-8 HR: 3 RHODAMINE 6G EXTRA BASE**

mf:  $\text{C}_{28}\text{H}_{30}\text{N}_2\text{O}_3 \cdot \text{ClH}$  mw: 479.06

**PROP:** Bluish-pink crystals or powder. Sol in  $\text{H}_2\text{O}$  and EtOH.

**SYNS:** AIZEN RHODAMINE 6GCP □ BASIC RED 1 □ BASIC RHODAMINE YELLOW □ BASIC RHODAMINIC YELLOW □ CALCOZINE RED 6G □ CALCOZINE RHODAMINE 6GX □ CERVEN ZASADITA 1 □ C.I. 45160 □ C.I. BASIC RED 1 □ C.I. BASIC RED 1, MONOHYDROCHLORIDE □ ELCOZINE RHODAMINE 6GDN □ ELJON PINK TONER □ FANAL PINK B □ FANAL PINK GPK □ FANAL RED 2532 □ FLEJO RED 482 □ HELIOSTABLE BRILLIANT PINK B EXTRA □ MITSUI RHODAMINE □ MITSUI RHODAMINE 6GCP □ NCI-C56122 □ NYCO Liquid RED GF □ Rh 6G □ RHODAMINE 590 CHLORIDE □ RHODAMINE 69DN EXTRA □ RHODAMINE F4G □ RHODAMINE F5G □ RHODAMINE F5G CHLORIDE □ RHODAMINE F 5GL □ RHODAMINE 6GB □ RHODAMINE 6G (BIOLOGICAL STAIN) □ RHODAMINE 6GBN □ RHODAMINE 6G CHLORIDE □ RHODAMINE 6GCP □ RHODAMINE 4GD □ RHODAMINE 6GD □ RHODAMINE GDN □ RHODAMINE 5GDN □ RHODAMINE 6 GDN □ RHODAMINE 6 GDN EXTRA □ RHODAMINE 6GEX ETHYL ESTER □ RHODAMINE 6G EXTRA □ RHODAMINE 6G EXTRA BASE □ RHODAMINE 4GH □ RHODAMINE

6GH □ RHODAMINE 5GL □ RHODAMINE 6G LAKE □ RHODAMINE 6GO □ RHODAMINE 6GX □ RHODAMINE J □ RHODAMINE 6JH □ RHODAMINE 7JH □ RHODAMINE LAKE RED 6G □ RHODAMINE Y 20-7425 □ RHODAMINE ZH □ RHODAMINE 6ZH □ RHODAMINE 6Zh-DN □ RHODAMIN 6G □ SILOSUPER PINK B □ VALI FAST RED 1308 □ XANTHYLIUM, 9-(2-(ETHOXYCARBONYL)PHENYL)-3,6-BIS(ETHYLAMINO)-2,7-DIMETHYL-, CHLORIDE

**TOXICITY DATA with REFERENCE:**

mma-sat 20 nmol/plate CNREA8 39,441,79

dnd-ham:ovr 90  $\mu\text{mol/L}$  CNREA8 39,441,79

orl-rat LDLo:125 mg/kg NTPTR\* NTP-TR-364,89

orl-mus LDLo:50 mg/kg GTPZAB 7(2),34,63

**CONSENSUS REPORTS:** IARC Cancer Review: Group 3 IMEMDT 7,56,87; Animal Limited Evidence IMEMDT 16,233,78; Human No Adequate Data IMEMDT 16,233,78. Reported in EPA TSCA Inventory. Community Right-To-Know List.

**SAFETY PROFILE:** Poison by ingestion and intraperitoneal routes. An experimental teratogen. Mutation data reported. Questionable carcinogen with experimental tumorigenic data. When heated to decomposition it emits very toxic fumes of  $\text{Cl}^-$  and  $\text{NO}_x$ .

**RGW100 CAS: 62669-77-6 HR: D RHODAMINE 116 PERCHLORATE**

mf:  $\text{C}_{22}\text{H}_{19}\text{N}_2\text{O}_3 \cdot \text{ClO}_4$  mw: 458.88

**SYNS:** BENZOIC ACID, 2-(6-(METHYLAMINO)-3-(METHYLIMINO)-3H-XANTHEN-9-YL)-, MONOPERCHLORATE □ 9-(2-CARBOXYPHENYL)-3,6-BIS(METHYLAMINO)XANTHYLIUM PERCHLORATE □ 2-(6-(METHYLAMINO)-3-(METHYLIMINO)-3H-XANTHEN-9-YL)BENZOIC ACID MONOPERCHLORATE □ Rh 116 □ RHODAMINE 116 □ XANTHYLIUM, 9-(2-CARBOXY-PHENYL)-3,6-BIS(METHYLAMINO)-, PERCHLORATE

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

**SAFETY PROFILE:** Experimental reproductive effects. When heated to decomposition it emits toxic vapors of  $\text{NO}_x$  and  $\text{Cl}^-$ .

**RGZ100 CAS: 37299-86-8 HR: 2 RHODAMINE WT**

mf:  $\text{C}_{29}\text{H}_{29}\text{N}_2\text{O}_5 \cdot \text{Cl} \cdot 2\text{Na}$  mw: 567.03

**SYN:** ACID RED 388

**TOXICITY DATA with REFERENCE:**

dnd-ham:ovr 80 nmol/L MUREAV 118,117,83

sce-ham:ovr 12 nmol/L MUREAV 118,117,83

ivn-mus LD50:430 mg/kg TXAPA9 44,225,78

**SAFETY PROFILE:** Moderately toxic by intravenous route. Mutation data reported. When heated to decomposition it emits toxic fumes of  $\text{Cl}^-$ ,  $\text{NO}_x$ , and  $\text{Na}_2\text{O}$ . See also CHLORIDES.

**RGZ550 CAS: 141-84-4 HR: 3 RHODANINE**

mf:  $\text{C}_3\text{H}_3\text{NOS}_2$  mw: 133.19



**PROP:** Yellow crystals or prisms from EtOH. Mp: 170° (can explode), d: 0.868. Sol in water, alkali,  $\text{NH}_4\text{OH}$ ; very sol in alc, ether.

**SYNS:** 4-OXO-2-THIONOTHIAZOLIDINE □ RHODANIC ACID  
 □ RHODANIN (CZECH) □ RHODANINIC ACID □ 2-THIO-4-KETOIHAZOLIDINE □ 2-THIOXO-4-THIAZOLIDINONE □ USAF HA-2

**TOXICITY DATA with REFERENCE:**

skn-rbt 500 mg/24H MOD 28ZPAK -,202,72  
 eye-rbt 750 µg/24H SEV 28ZPAK -,202,72  
 orl-rat LD50:320 mg/kg 85JCAE -,1093,86  
 orl-mus LD50:225 mg/kg FRZKAP 17(1),36,62  
 ipr-mus LD50:200 mg/kg NTIS\*\* AD277-689  
 scu-mus LDLo:200 mg/kg AIPAK 12,447,04  
 ivn-mus LD50:32 mg/kg CSLNX\* NX#04798

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

**SAFETY PROFILE:** Poison by ingestion, intraperitoneal, subcutaneous, and intravenous routes. A skin and severe eye irritant. May explode on rapid heating. When heated to decomposition it emits very toxic fumes of NO<sub>x</sub> and SO<sub>x</sub>.

**RHA000 CAS: 141-11-7 HR: 1  
 RHODINYL ACETATE**

mf: C<sub>12</sub>H<sub>22</sub>O<sub>2</sub> mw: 198.34

**PROP:** Mixture of acetates of geraniol and l-citronellol, found in geranium oil (FCTXAV 12,807,74). Colorless to sltly yellow liquid; fresh rose odor. D: 0.895–0.908, refr index: 1.450–1.458. Sol in alc and fixed oils; insol in glycerin, propylene glycol, and water @ 237°.

**SYNS:** α-CITRONELLYL ACETATE □ 3,7-DIMETHYL-7-OCTEN-1-OL ACETATE □ FEMA No. 2981 □ RHODINOL ACETATE

**TOXICITY DATA with REFERENCE:**

skn-rbt 500 mg/24H MLD FCTXAV 12,975,74  
 orl-rat LD50:>5 g/kg FCTXAV 12,975,74  
 skn-rbt LD50:>5 g/kg FCTXAV 12,975,74

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

**SAFETY PROFILE:** Low toxicity by ingestion and skin contact. A skin irritant. When heated to decomposition it emits acrid smoke and irritating fumes.

**RHA100 HR: D  
 RHODINYL FORMATE**

mf: C<sub>11</sub>H<sub>20</sub>O<sub>2</sub> mw: 184.28

**PROP:** Colorless to slightly yellow liquid; leafy, rose-like odor. D: 0.901–0.908, refr index: 1.453–1.458. Sol in alc, fixed oils; insol in glycerin, propylene glycol, water @ 200°.

**SYN:** FEMA No. 2984

**SAFETY PROFILE:** When heated to decomposition it emits acrid smoke and irritating fumes.

**RHA125 CAS: 64253-73-2 HR: 3  
 RHODIRUBIN A**

mf: C<sub>42</sub>H<sub>55</sub>NO<sub>16</sub> mw: 829.98

**PROP:** A solid. Mp: 141–143°.

**SYNS:** 1-HYDROXY-MA-144-N1 □ MA144 N2

**TOXICITY DATA with REFERENCE:**

dni-mus:leu 350 nmol/L JANTAJ 34,1596,81  
 oms-mus:leu 43 nmol/L JANTAJ 34,1596,81  
 ipr-mus LD50:7500 µg/kg JANTAJ 30,616,77

**SAFETY PROFILE:** Poison by intraperitoneal route. Mutation data reported. When heated to decomposition it emits toxic fumes of NO<sub>x</sub>.

**RHA150 CAS: 64502-82-5 HR: 3  
 RHODIRUBIN B**

mf: C<sub>43</sub>H<sub>55</sub>NO<sub>15</sub> mw: 813.98

**PROP:** A solid. Mp: 135–137°.

**TOXICITY DATA with REFERENCE:**

dni-mus:leu 370 nmol/L JANTAJ 34,1596,81  
 oms-mus:leu 55 nmol/L JANTAJ 34,1596,81  
 ipr-mus LD50:10 mg/kg JANTAJ 30,616,77

**SAFETY PROFILE:** Poison by intraperitoneal route. Mutation data reported. When heated to decomposition it emits toxic fumes of NO<sub>x</sub>.

**RHF000 CAS: 7440-16-6 HR: 3  
 RHODIUM**

af: Rh aw: 102.91

**PROP:** A hard, lustrous, silvery-white, metallic element. Mp: 1966°, bp: 3727°, d: 12.41 @ 20°. Oxidizes slowly at 6°. IDLH 100 mg/m<sup>3</sup> (as Rh).

**SYNS:** RH □ RHODIUM METAL (OSHA)

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

**OSHA PEL:** TWA Metal, Fume, Insol Compounds: 0.1 mg(Rh)/m<sup>3</sup>; Sol Compounds: 0.001 mg(Rh)/m<sup>3</sup>

**ACGIH TLV:** TWA (Metal) 1 mg/m<sup>3</sup>, (insoluble compounds as Rh) 1 mg/m<sup>3</sup>, (soluble compounds as Rh) 0.01 mg/m<sup>3</sup>

**NIOSH REL:** (Rhodium (as Rh)): TWA 0.1 mg/m<sup>3</sup>

**SAFETY PROFILE:** Handle carefully. It may be a sensitizer but not to the same extent as platinum. Most rhodium compounds have only moderate toxicity by ingestion. Flammable when exposed to heat or flame. Violent reaction with chlorine, bromine pentafluoride, bromine trifluoride, and OF<sub>2</sub>. A catalytic metal.

**RHF150 CAS: 5503-41-3 HR: 3  
 RHODIUM(II) ACETATE**

mf: C<sub>4</sub>H<sub>8</sub>O<sub>4</sub>•Rh mw: 223.03

**PROP:** Green powder. IDLH 100 mg/m<sup>3</sup> (as Rh).

**SYNS:** Rh-110 □ RHODIUM DIACETATE

**TOXICITY DATA with REFERENCE:**

dni-mus:ast 10 µmol/L PSEBAA 145,1278,74  
 dnd-mam:lym 100 µmol/L CCROBU 59,611,75  
 ipr-mus LD50:27 mg/kg PSEBAA 145,1278,74

**OSHA PEL:** TWA 0.001 mg(Rh)/m<sup>3</sup>

**ACGIH TLV:** TWA 1 mg(Rh)/m<sup>3</sup>

**SAFETY PROFILE:** Poison by intraperitoneal route. Mutation data reported. When heated to decomposition it emits acrid smoke and irritating fumes. See also RHODIUM.

**RHK000 CAS: 10049-07-7 HR: 3  
 RHODIUM(III) CHLORIDE (1:3)**

mf: Cl<sub>3</sub>Rh mw: 209.26

**PROP:** Hygroscopic brown-red solid. Insol in org solvs and H<sub>2</sub>O; sol in cyanide soln, alkali hydroxide soln. IDLH 100 mg/m<sup>3</sup> (as Rh).

**SYNS:** RHODIUM CHLORIDE □ RHODIUM TRICHLORIDE

**TOXICITY DATA with REFERENCE:**

mrc-bcs 5 mmol/L MUREAV 77,109,80  
itt-rat TDLo:16,741 µg/kg (1D male):REP JRPFA4  
7,21,64

orl-mus TDLo:940 mg/kg/66W-C:CAR JONUAI  
101,1431,71

orl-rat LD50:1302 mg/kg GTPZAB 21(7),55,77

ipr-rat LD50:280 mg/kg EQSSDX 1,1,75

ivn-rat LD50:198 mg/kg TXAPA9 21,589,72

ivn-rbt LD50:215 mg/kg TXAPA9 21,589,72

**CONSENSUS REPORTS:** Reported in EPA TSCA Inventory. EPA Genetic Toxicology Program.

**OSHA PEL:** TWA 0.001 mg(Rh)/m<sup>3</sup>

**ACGIH TLV:** TWA 1 mg(Rh)/m<sup>3</sup>

**SAFETY PROFILE:** Poison by ingestion, intraperitoneal, and intravenous routes. Experimental reproductive effects. Questionable carcinogen with experimental carcinogenic data. Mutation data reported. Incompatible with pentacarbonyl iron + zinc. When heated to decomposition it emits toxic fumes of Cl<sup>-</sup>. See also RHODIUM and CHLORIDES.

**RHK250 CAS: 56047-14-4 HR: 3**

**RHODIUM DIBUTYRATE**

mf: C<sub>8</sub>H<sub>16</sub>O<sub>4</sub>•Rh mw: 279.15

**PROP:** IDLH 100 mg/m<sup>3</sup> (as Rh).

**SYN:** RHODIUM(II) BUTYRATE

**TOXICITY DATA with REFERENCE:**

dni-mus/ast 600 µg/kg CCROBU 59,611,75

oms-mus/ast 600 µg/kg CCROBU 59,611,75

ipr-mus LD10:700 µg/kg CCROBU 59,611,75

**OSHA PEL:** TWA 0.001 mg(Rh)/m<sup>3</sup>

**ACGIH TLV:** TWA 1 mg(Rh)/m<sup>3</sup>

**SAFETY PROFILE:** Poison by intraperitoneal route. Mutation data reported. When heated to decomposition it emits acrid smoke and irritating fumes. See also RHODIUM.

**RHK850 CAS: 31126-81-5 HR: 3**

**RHODIUM(II) PROPIONATE**

mf: C<sub>12</sub>H<sub>20</sub>O<sub>8</sub>Rh<sub>2</sub> mw: 498.14

**PROP:** IDLH 100 mg/m<sup>3</sup> (as Rh).

**SYNS:** TETRAKIS(μ-(PROPANOATO-O-O'))DI-RHODIUM (Rh-Rh) □ TETRAKIS(μ-(PROPIONATO))DI-RHODIUM (Rh-Rh)

**TOXICITY DATA with REFERENCE:**

dni-mus:ast 2 mg/kg CCROBU 59,611,75

dni-mus:ast 10 µmol/L PSEBAA 145,1278M74

ipr-mus LD50:4500 µg/kg PSEBAA 145,1278,74

**OSHA PEL:** TWA 0.1 mg(Rh)/m<sup>3</sup>

**ACGIH TLV:** TWA 1 mg(Rh)/m<sup>3</sup>

**SAFETY PROFILE:** Poison by intraperitoneal route. Mutation data reported. When heated to decomposition it emits acrid smoke and irritating fumes. See also RHODIUM.

**RHP000 CAS: 13569-65-8 HR: 3**

**RHODIUM TRICHLORIDE TRIHYDRATE**

mf: Cl<sub>3</sub>Rh•3H<sub>2</sub>O mw: 263.32

**PROP:** Hygroscopic deep-red crystals. Sol in H<sub>2</sub>O and hot EtOH. IDLH 100 mg/m<sup>3</sup> (as Rh).

**SYNS:** RHODIUM CHLORIDE □ RHODIUM CHLORIDE, TRIHYDRATE

**TOXICITY DATA with REFERENCE:**

mno-sat 1 µmol/plate MUREAV 88,165,81

mno-esc 10 mg/L MUREAV 77,109,80

ipr-mus LD50:369 mg/kg TXAPA9 63,461,82

**OSHA PEL:** TWA 0.1 mg(Rh)/m<sup>3</sup>

**ACGIH TLV:** TWA 1 mg(Rh)/m<sup>3</sup>

**SAFETY PROFILE:** A poison by intraperitoneal route. Mutation data reported. When heated to decomposition it emits toxic fumes of Cl<sup>-</sup>. See also RHODIUM and CHLORIDES.

**RHU500 HR: 3**

**RHODODENDRON**

**PROP:** An extremely large genus of shrubs which grow wild and are cultivated outdoors in Canada and most of the United States, except the north central states and southern Florida.

**SYNS:** AZALEA □ RHODORA (CANADA) □ ROSA LAUREL (MEXICO) □ ROSEBAY

**SAFETY PROFILE:** The leaves and nectar contain poisonous grayanotoxins (andromedotoxins). Ingestion of the leaves or honey made from the nectar produces an immediate burning pain in the mouth and may cause after a delay period of several hours: vomiting, diarrhea, headache, muscle weakness, impaired vision, slowed heart rate, severe low blood pressure, convulsions, coma, and death.

**RHZ000 CAS: 491-92-9 HR: 3**

**RHODOQUINE**

mf: C<sub>19</sub>H<sub>29</sub>N<sub>3</sub>O mw: 315.51

**SYNS:** AMINOQUIN □ BEPROCHINE □ 8-((4-(DIETHYL-AMINO)-1-METHYLBUTYL)AMINO)-6-METHOXYQUINOLINE □ GAMEFAR □ PAMAQUIN □ PLASMOCHIN □ PLASMOCIDINE □ PLASMOQUINE □ PRAEQUINE □ PREQUINE □ QUIPENYL

**TOXICITY DATA with REFERENCE:**

unr-man LDLo:7353 µg/kg 85DCAI 2,73,70

orl-mus LD50:68 mg/kg BJPCAL 6,185,51

scu-mus LDLo:12,500 µg/kg AEPPAE 144,341,29

scu-dog LDLo:20 mg/kg AEPPAE 144,341,29

orl-cat LDLo:7500 µg/kg AEPPAE 144,341,29

scu-cat LDLo:5 mg/kg AEPPAE 144,341,29

ivn-cat LDLo:5 mg/kg AEPPAE 144,341,29

scu-rbt LDLo:20 mg/kg AEPPAE 144,341,29

ivn-rbt LDLo:3500 µg/kg AEPPAE 144,341,29

ims-brd LDLo:33 mg/kg AEPPAE 144,341,29

**SAFETY PROFILE:** Human poison by an unspecified route. Experimental poison by ingestion, subcutaneous, intravenous, and intramuscular routes. When heated to decomposition it emits toxic fumes of NO<sub>x</sub>.

**RHZ100 CAS: 486-89-5 HR: D**

**RHOMBININE**

mf: C<sub>15</sub>H<sub>20</sub>N<sub>2</sub>O mw: 244.37

**SYNS:** ANAGRYNE □ (-)-ANAGRYNE □ MONOLUPINE

**SAFETY PROFILE:** Experimental reproductive effects. When heated to decomposition it emits toxic vapors of NO<sub>x</sub>.

**RHZ600 CAS: 97676-32-9 HR: 2**  
**RHUBARB**

**PROP:** A perennial with long stalks that become red when mature. The large, oval leaves are wrinkled and have wavy edges. It is commonly grown for the edible stalk.

**SYNS:** PIE PLANT □ RHEUM RHABARBARUM □ RHUBARBE (CANADA) □ WINE PLANT

**TOXICITY DATA with REFERENCE:**

orl-mus LD50:90,400 mg/kg CTYAD8 15,414,1984

**SAFETY PROFILE:** Low toxicity by ingestion. The raw or canned leaves contain poisonous anthraquinone glycosides and soluble oxalates. The most common symptom from ingestion of the leaves is diarrhea. Oxalate poisoning from ingestion of large amounts of the leaves may have caused kidney damage. See also OXALATES.

**RHZ700 CAS: 478-43-3 HR: 3**  
**RHUBARB YELLOW**

mf: C<sub>15</sub>H<sub>8</sub>O<sub>6</sub> mw: 284.23

**SYNS:** 2-ANTHRACENECARBOXYLIC ACID, 9,10-DIHYDRO-4,5-DIHYDROXY-9,10-DIOXO- □ 2-ANTHROIC ACID, 9,10-DIHYDRO-4,5-DIHYDROXY-9,10-DIOXO- □ 9,10-DIHYDRO-4,5-DIHYDROXY-9,10-DIOXO-2-ANTHRACENECARBOXYLIC ACID □ CASSIC ACID □ CHRYSAZIN-3-CARBOXYLIC ACID □ MONORHEIN □ RHEIC ACID □ RHEIN

**TOXICITY DATA with REFERENCE:**

orl-mus LD50:>5 g/kg PHTOEH 61,153,1987

ivn-mus LD50:>25 mg/kg PHTOEH 61,153,1987

**SAFETY PROFILE:** A poison by intravenous route. Low toxicity by ingestion. When heated to decomposition it emits acrid smoke and irritating vapors.

**RIF000 CAS: 488-81-3 HR: 1**  
**RIBITOL**

mf: C<sub>5</sub>H<sub>12</sub>O<sub>5</sub> mw: 152.17

**PROP:** A solid. Mp: 102°.

**SYNS:** ADONITOL □ 1,2,3,4,5-PENTANEPENTOL □ PENTITOL

**TOXICITY DATA with REFERENCE:**

ipr-mus LDLo:10 g/kg PSEBAA 35,98,36

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

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

**RIF100 CAS: 146-14-5 HR: 2**  
**RIBOFLAVIN-ADENINE DINUCLEOTIDE**

mf: C<sub>27</sub>H<sub>33</sub>N<sub>9</sub>O<sub>15</sub>P<sub>2</sub> mw: 785.63

**PROP:** Solid.

**SYNS:** ADENINE-FLAVIN DINUCLEOTIDE □ ADENINE-FLAVINE DINUCLEOTIDE □ ADENINE-RIBOFLAVIN DINUCLEOTIDE □ ADENINE-RIBOFLAVINE DINUCLEOTIDE □ ADENOSINE 5'-(TRIHYDROGEN PYROPHOSPHATE), 5'-5'-ESTER with RIBOFLAVINE □ FAD □ FLAVIN ADENIN DINUCLEOTIDE □ FLAVIN ADENINE DINUCLEOTIDE □ FLAVINAT □ FLAVINE-ADENINE DINUCLEOTIDE □ FLAVINE ADENOSINE DIPHOSPHATE □ FLAVITAN □ ISOALLOX-AZINE-ADENINE DINUCLEOTIDE □ RIBOFLAVINEADENINE DINUCLEOTIDE □ RIBOFLAVIN 5'-(TRIHYDROGEN DIPHOSPHATE), 5'-5'-ESTER with ADENOSINE (9CI)

**TOXICITY DATA with REFERENCE:**

ivn-mus LD50:700 mg/kg DRUGAY 6,689,82

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

**SAFETY PROFILE:** Moderately toxic by intravenous route. When heated to decomposition it emits toxic vapors of NO<sub>x</sub> and PO<sub>x</sub>.

**RIK000 CAS: 83-88-5 HR: 3**  
**RIBOFLAVINE**

mf: C<sub>17</sub>H<sub>20</sub>N<sub>4</sub>O<sub>6</sub> mw: 376.37

**PROP:** Orange to yellow crystals or needles; slt odor.

Mp: 282° (decomp). Sltly sol in water, alc; insol in ether, chloroform.

**SYNS:** BEFLAVINE □ 6,7-DIMETHYL-9-d-RIBITYLISOALLOX-AZINE □ 7,8-DIMETHYL-10-d-RIBITYLISOALLOXAZINE □ 7,8-DIMETHYL-10-(d-RIBO-2,3,4,5-TETRAHYDROXPENTYL)-ISOALLOXAZINE □ FLAVAXIN □ HYFLAVIN □ HYRE □ LACTOFLAVIN □ LACTOFLAVINE □ RIBIPCA □ RIBODERM □ RIBOFLAVIN □ RIBOFLAVINEQUINONE □ VITAMIN B2 □ VITAMIN G

**TOXICITY DATA with REFERENCE:**

mmo-sat 500 µg/plate TRENAF 37,447,86

cyt-ham:lng 300 mg/L GMCRC 27,95,81

ipr-rat LD50:560 mg/kg JPETAB 76,75,42

scu-rat LD50:5000 mg/kg JPETAB 76,75,42

ivn-mus LDLo:365 mg/kg TXAPA9 44,225,78

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

**SAFETY PROFILE:** Poison by intravenous route. Moderately toxic by intraperitoneal and subcutaneous routes. Mutation data reported. When heated to decomposition it emits toxic fumes of NO<sub>x</sub>.

**RIP000 CAS: 53797-35-6 HR: 3**  
**RIBOFLAVINE SULFATE**

mf: C<sub>17</sub>H<sub>34</sub>N<sub>4</sub>O<sub>10</sub>•xH<sub>2</sub>O<sub>4</sub>S mw: 1141.11

**PROP:** Powder.

**SYNS:** LANDAMYCINE □ RIBOMYCINE □ RIBOSTAMIN □ RIBOSTAMYCIN SULFATE □ SF 733 ANTIBIOTIC SULFATE □ VISTAMYCIN

**TOXICITY DATA with REFERENCE:**

ipr-rat LD50:3080 mg/kg JMGZAI 10(2),5,73

scu-rat LD50:5600 mg/kg IYKEDH 4,90,73

ivn-rat LD50:375 mg/kg JMGZAI 10(2),5,73

ims-rat LD50:2030 mg/kg NIIRDN 6,885,82

ipr-mus LD50:1981 mg/kg JMGZAI 10(2),5,73

scu-mus LD50:2345 mg/kg IYKEDH 4,90,73

ivn-mus LD50:210 mg/kg IYKEDH 4,90,73

ims-mus LD50:1561 mg/kg IYKEDH 4,90,73

**SAFETY PROFILE:** Poison by intravenous route. Moderately toxic by intraperitoneal, intramuscular, and subcutaneous routes. Used as an antibiotic. When heated to decomposition it emits very toxic fumes of NO<sub>x</sub> and SO<sub>x</sub>.

**RIFP00 CAS: 130-40-5 HR: D**  
**RIBOFLAVIN 5'-PHOSPHATE SODIUM**

mf: C<sub>127</sub>H<sub>20</sub>N<sub>4</sub>NaO<sub>9</sub>P•2H<sub>2</sub>O mw: 1817.56

**PROP:** Fine orange-yellow crystalline powder; slt odor. Hygroscopic; sol in water. Decomposed by light when in solution.

**SYN:** RIBOFLAVIN 5'-PHOSPHATE ESTER MONOSODIUM SALT

**SAFETY PROFILE:** When heated to decomposition emits toxic fumes of NO<sub>x</sub> and NaO<sub>2</sub>.

**RIU000 CAS: 16755-07-0 HR: 3**

### 2-β-d-RIBOFURANOSYLMALIMIDE

mf: C<sub>9</sub>H<sub>11</sub>NO<sub>6</sub> mw: 229.21

**PROP:** Leaflets from Me<sub>2</sub>CO/C<sub>6</sub>H<sub>6</sub>. Mp: 160–161°. Sol in H<sub>2</sub>O, EtOH; insol in Et<sub>2</sub>O.

**SYNS:** 3-β-d-RIBOFURANOSYL-1H-PYRROLE-2,5-DIONE □ SHOWDOMYCIN

### TOXICITY DATA with REFERENCE:

ipr-mus LD50:25 mg/kg JAJAAA 17,148,64

scu-mus LD50:18 mg/kg JAJAAA 17,148,64

ivn-mus LD50:110 mg/kg 85ERAY 2,1443,78

**SAFETY PROFILE:** Poison by intraperitoneal, subcutaneous, and intravenous routes. When heated to decomposition it emits toxic fumes of NO<sub>x</sub>.

**RJA000 CAS: 54-25-1 HR: 3**

### 2-β-d-RIBOFURANOSYL-as-TRIAZINE-3,5(2H,4H)-DIONE

mf: C<sub>8</sub>H<sub>11</sub>N<sub>3</sub>O<sub>6</sub> mw: 245.22

**PROP:** A solid. Mp: 160–161°.

**SYNS:** 6-AZAUACILRIBOSIDE □ 6-AZAUACIL-β-d-RIBOSIDE □ AZAURIDINE □ 6-AZAUACIL-β-d-RIBOSIDE □ 6-AZURIDINE □ 3,5-DIOXO-2,3,4,5-TETRAHYDRO-1,2,4-TRIAZINE RIBOSIDE □ NSC-32074 □ RIBO-AZAUACIL □ RIBO-AZURACIL □ 2-β-d-RIBOFURANOSYL-1,2,4-TRIAZINE-3,5(2H,4H)-DIONE

### TOXICITY DATA with REFERENCE:

sln-dmg-par 20 mmol/L BCPA6 15,299,66

spm-rat-ipr 2 g/kg CEFYAD 21,278,72

dni-mus-ipr 3 g/kg NEOLA4 20,243,73

spm-mus-ipr 5 g/kg CEFYAD 21,278,72

ivn-wmn TDLo:150 mg/kg (47D preg):TER CLPTAT 7,162,66

ipr-rat LD50:9400 mg/kg TJADAB 4,287,71

ipr-mus LD50:11,250 mg/kg BCPA6 14,1517,65

ipr-dog LD50:3400 mg/kg BCPA6 14,1537,65

ipr-cat LD50:2400 mg/kg BCPA6 14,1537,65

**CONSENSUS REPORTS:** EPA Genetic Toxicology Program.

**SAFETY PROFILE:** Moderately toxic by intraperitoneal route. Human teratogenic effects by intravenous route: unspecified developmental abnormalities or effects on the embryo or fetus. An experimental teratogen. Experimental reproductive effects. Mutation data reported. When heated to decomposition it emits toxic fumes of NO<sub>x</sub>. Used as an antineoplastic agent.

**RJA500 CAS: 36791-04-5 HR: 2**

### 1-β-d-RIBOFURANOSYL-1,2,4-TRIAZOLE-3-CARBOXAMIDE

mf: C<sub>8</sub>H<sub>12</sub>N<sub>4</sub>O<sub>5</sub> mw: 244.24

**PROP:** Mp: 174–176°. Sol in H<sub>2</sub>O.

**SYNS:** ICN-1229 □ RIBAVIRIN □ RCTA □ VIRAMID □ VIRAZOLE

### TOXICITY DATA with REFERENCE:

oms-mus:lym 20 μmol/L CNREA8 45,5512,85

dni-mus:lym 10 μmol/L CNREA8 45,5512,85

orl-rat LD50:2700 mg/kg PCJOAU 18,667,84

orl-mus LDLo:4 g/kg PCJOAU 18,667,84

ipr-mus LD50:1300 mg/kg JMCMA 15,1150,72

**SAFETY PROFILE:** Moderately toxic by intraperitoneal route. Mildly toxic by ingestion. An experimental teratogen. Experimental reproductive effects. Mutation data reported. Used as an antiviral agent. When heated to decomposition it emits toxic fumes of NO<sub>x</sub>.

**ANALYTICAL METHOD:** For occupational chemical analysis use NIOSH: Ribavirin 5027.

**RJA600 CAS: 63231-63-0 HR: 2**

### RIBONUCLEIC ACIDS

**SYNS:** NUCLEIC ACIDS, RIBO- □ PENTOSENUCLEIC ACIDS □ RNA

### TOXICITY DATA with REFERENCE:

ipr-mus LD :>1500 mg/kg ANYAA9 60,251,54

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

**RJA700 CAS: 50-69-1 HR: D**

### d-RIBOSE

mf: C<sub>5</sub>H<sub>10</sub>O<sub>5</sub> mw: 150.15

**SYNS:** RIBOSE □ RIBOSE, d-

### TOXICITY DATA with REFERENCE:

dni-hmn-lym 50 mmol/L BBRCA9 138,673,1986

uns-hmn-lym 30 mmol/L PSEBAA 180,246,1985

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

**SAFETY PROFILE:** Experimental reproductive effects. Mutation data reported. When heated to decomposition it emits acrid smoke and irritating vapors.

**RJF000 CAS: 550-33-4 HR: 3**

### RIBOSYLPURINE

mf: C<sub>10</sub>H<sub>12</sub>N<sub>4</sub>O<sub>4</sub> mw: 252.26

**PROP:** Small crystals from ethyl methyl ketone and methanol. Mp: 181–182°. Needles from methanol. Mp: 182–183°. Sol in water; sltly sol in cold ethanol; very sltly sol in acetone, ether, and chloroform.

**SYNS:** NEBULARIN(E) □ NEBULARINE □ PURINE RIBONUCLEOSIDE □ 9-PURINE RIBONUCLEOSIDE □ PURINE RIBOSIDE □ 9-(β-d-RIBOFURANOSYL)PURINE □ 9-(β-d-RIBOFURANOSYL)-9H-PURINE

### TOXICITY DATA with REFERENCE:

scu-rat LD50:220 mg/kg FEPA7 14,391,55

scu-mus LD50:200 mg/kg 85GDA2 5,289,81

ivn-mus LD50:50 mg/kg 85GDA2 5,289,81

scu-gpg LD50:15 mg/kg FEPA7 14,391,55

**CONSENSUS REPORTS:** EPA Genetic Toxicology Program.

**SAFETY PROFILE:** Poison by intravenous and subcutaneous routes. When heated to decomposition it emits toxic fumes of NO<sub>x</sub>.

**RJF400 CAS: 80702-47-2 HR: 2**

### RIBOTIDE

mf:  $C_{10}H_{12}N_4O_8P \cdot 2Na \cdot C_{10}H_{11}N_4O_8P \cdot 2Na$  mw: 1100.66

**SYNS:** DISODIUM-5'-GUANYLATE mixed with DISODIUM 5'-INOSINATE (1:1) □ DISODIUM-5'-INOSINATE mixed with DISODIUM 5'-GUANYLATE (1:1) □ DISODIUM-5'-RIBO-NUCLEOTIDE □ 5'-INOSINIC ACID, DISODIUM SALT, mixed with DISODIUM-5'-GUANYLATE (1:1) □ RB

**TOXICITY DATA with REFERENCE:**

ivn-mus LD50:3800 mg/kg TAKHAA 33,24,74

**SAFETY PROFILE:** Moderately toxic by intravenous route. Experimental reproductive effects. When heated to decomposition it emits toxic fumes of  $NO_x$ ,  $PO_x$ , and  $Na_2O$ .

**RJF500 CAS: 60084-10-8 HR: 2 RIBOXAMIDE**

mf:  $C_9H_{12}N_2O_5S$  mw: 260.29

**PROP:** Light-yellow needles from EtOH/EtOAc. Mp: 145–146°.

**SYNS:** NSC-286193 □ 2-β-d-RIBOFURANOSYLTHIAZOLE-4-CARBOXAMIDE □ 2-β-d-RIBOFURANOSYL-4-THIAZOLE-CARBOXAMIDE □ TIAZOFURIN

**TOXICITY DATA with REFERENCE:**

dni-mus:lym 10 μmol/L CNREA8 45,5512,85

dni-mus:leu 10 μmol/L BCPA6 34,1109,85

ivn-hmn TDLo:1135 mg/kg/15D-I:CNS,MSK CNREA8 45,5169,85

ivn-hmn TDLo:892 mg/kg/10D-I:CNS CNREA8 45,5169,85

ipr-mus LD50:1684 mg/kg NCISP\* JAN86

ivn-mus LD50:3400 mg/kg NTIS\*\* PB83-156901

ivn-dog LDLo:1090 mg/kg NTIS\*\* PB83-156901

**SAFETY PROFILE:** Moderately toxic by intravenous and intraperitoneal routes. Human systemic effects by intravenous route: headache, convulsions, and musculo-skeletal changes. Experimental reproductive effects. Mutation data reported. When heated to decomposition it emits toxic fumes of  $SO_x$  and  $NO_x$ .

**RJF800 HR: D RICE BRAN WAX**

**PROP:** Tan to brown hard wax. Mp: 75°. Sol in chloroform, benzene; insol in water.

**SAFETY PROFILE:** When heated to decomposition it emits acrid smoke and irritating fumes.

**RJK000 CAS: 9009-86-3 HR: 3 RICIN**

**PROP:** White powder. Found in castor beans (BIPAA8 74,85,76).

**TOXICITY DATA with REFERENCE:**

eye-rbt 1500 ng NTIS\*\* PB158-508

dni-rat:lvr 300 μg/L ARTODN 44,175,80

dni-mus/ast 25 μg/kg TOXIA6 11,379,73

orl-hmn LDLo:2 mg/kg PCOC\*\* -,963,66

orl-man TDLo:900 μg/kg:PUL,GIT HUTODJ 2,239,83

orl-man LDLo:300 μg/kg:CNS,GIT NTIS\*\* PB158-508

unr-chd LDLo:500 μg/kg:CNS,GIT 34ZIAG -,158,69

orl-rat LDLo:100 mg/kg NCNSA6 5,47,53

ihl-rat LC50:50 mg/m<sup>3</sup> NTIS\*\* PB158-508

ipr-rat LD50:1500 ng/kg TOXIA6 18,649,80

par-rat LD50:336 ng/kg NEREDZ 4,259,79

itr-rat LD50:5 μg/kg NTIS\*\* PB158-508

ihl-mus LC50:9 mg/m<sup>3</sup>

NTIS\*\* PB158-508

ipr-mus LD50:2 μg/kg TOXIA6 18,649,80

scu-mus LD50:22,100 ng/kg NTIS\*\* PB158-508

ivn-mus LD50:2200 ng/kg NTIS\*\* PB158-508

ihl-dog LC50:24 mg/m<sup>3</sup> NTIS\*\* PB158-508

itr-dog LD50:5 μg/kg NTIS\*\* PB158-508

ihl-mky LC50:100 mg/m<sup>3</sup> NTIS\*\* PB158-508

**SAFETY PROFILE:** A deadly poison to humans by ingestion. A deadly experimental poison by ingestion, inhalation, intratracheal, subcutaneous, parenteral, intravenous, and intraperitoneal routes. An experimental teratogen. Human systemic effects by ingestion: convulsions or effect on seizure threshold, cyanosis, death, dehydration, diarrhea, headache, hypermotility, nausea or vomiting, other gastrointestinal effects, somnolence. Experimental reproductive effects. Mutation data reported. An eye irritant. Inhalation or ingestion of minute amounts causes violent purging which may lead to collapse and death. Small particles in the eyes, nose, or any skin abrasion may prove fatal. May cause destruction of red blood cells. A very active military poison. Has been used in bizarre assassinations involving introduction of a tiny amount into the victim's body by subcutaneous route. A naturally occurring toxin. When heated to decomposition it emits toxic fumes of  $NO_x$ . See also ABRIN.

**RJK050 CAS: 9040-12-4 HR: 3 RICIN D**

**SYN:** RICINS, D

**TOXICITY DATA with REFERENCE:**

ipr-mus LD50:6200 ng/kg TOXIA6 14,157,1976

**SAFETY PROFILE:** A poison by intraperitoneal route. When heated to decomposition it emits acrid smoke and irritating vapors.

**RJK100 CAS: 524-40-3 HR: 3 RICININ**

mf:  $C_8H_8N_2O_2$  mw: 164.18

**SYNS:** 1,2-DIHYDRO-4-METHOXY-1-METHYL-2-OXONICOTINONITRILE □ NICOTINONITRILE, 1,2-DIHYDRO-4-METHOXY-1-METHYL-2-OXO- □ 3-PYRIDINECARBONITRILE, 1,2-DIHYDRO-4-METHOXY-1-METHYL-2-OXO- □ REIGININE □ RICININE

**TOXICITY DATA with REFERENCE:**

orl-rat LDLo:75 mg/kg NCNSA6 5,23,1953

scu-mus LD50:25 mg/kg PBBHAU 63,367,1999

**SAFETY PROFILE:** A poison by ingestion and subcutaneous route. When heated to decomposition it emits toxic vapors of  $NO_x$ .

**RJP000 CAS: 141-22-0 HR: 2 RICINOLEIC ACID**

mf:  $C_{18}H_{34}O_3$  mw: 298.52

**PROP:** Liquid. D: 0.940 @ 27.4°/4°, mp: 5.5° bp: 245° @ 10 mm. Insol in water; misc in alc, chloroform, and ether.

**SYNS:** l'ACIDE RICINOLEIQUE (FRENCH) □ 12-HYDROXY-cis-9-OCTADECENOIC ACID □ KYSELINA 12-HYDROXY-9-OKTADECENOVA □ KYSELINA RICINOLOVA □ 9-OCTADECENOIC

ACID, 12-HYDROXY-, (Z)- □ OLEIC ACID, 12-HYDROXY- □  
RICINIC ACID □ RICINOLIC ACID

### TOXICITY DATA with REFERENCE:

scu-rbt TDLo:390 mg/kg/17W-I:ETA CRSBAW  
137,760,43

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

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

**RJU000 CAS: 4722-99-0 HR: 3**

### RICINOLEIC ACID, BARIUM SALT

mf:  $C_{36}H_{66}O_6 \cdot Ba$  mw: 732.36

### TOXICITY DATA with REFERENCE:

ipr-mus LDLo:125 mg/kg CBCCT\* 4,111,52

**CONSENSUS REPORTS:** Barium and its compounds are on the Community Right-To-Know List. Reported in EPA TSCA Inventory.

**SAFETY PROFILE:** Poison by intraperitoneal route. When heated to decomposition it emits acrid smoke and irritating fumes. See also RICINOLEIC ACID and BARIUM COMPOUNDS.

**RJZ000 CAS: 23246-96-0 HR: 3**

### RIDDELLINE

mf:  $C_{18}H_{23}NO_6$  mw: 349.42

**PROP:** Mp: 197–198° (decomp). An alkaloid isolated from *S. riddellii* (RETOAE 5,55,49).

**SYNS:** RIDDELLIN □ SENEACIONAN-11,16-DIONE, 13,19-DIDEHYDRO-12,18-DIHYDROXY-(9CI)

### TOXICITY DATA with REFERENCE:

dns-rat-orl 125 mg/kg ENMUDM 7(Suppl 3),73,85

dns-rat:lvrl 3200 µg/L ENMUDM 5,482,83

orl-rat LDLo:25 mg/kg JPBA7 78,471,59

ivn-mus LD50:105 mg/kg JPETAB 78,372,43

**CONSENSUS REPORTS:** IARC Cancer Review: Group 3 IMEMDT 7,56,87; Animal Inadequate Evidence IMEMDT 10,313,76; Human No Adequate Data IMEMDT 10,313,76.

**SAFETY PROFILE:** Poison by ingestion and intravenous routes. Questionable carcinogen with experimental tumorigenic data. Mutation data reported. When heated to decomposition it emits toxic fumes of  $NO_x$ .

**RJZ100 CAS: 94168-98-6 HR: 3**

### RIFAMETANE

mf:  $C_{44}H_{60}N_4O_{12}$  mw: 837.08

**SYNS:** ANTIBIOTIC SPA-S 565 □ 3-((1-(DIETHYLAMINO)ETHYLIDENE)HYDRAZONO)METHYL)RIFAMYCIN □ 3-((1-(DIETHYLAMINOETHYLIDENE)AZINO-METHYL)RIFAMYCIN SV □ RIFAMYCIN, 3-((1-(DIETHYLAMINO)ETHYLIDENE)HYDRAZONO)METHYL)- □ SPA-S 565

### TOXICITY DATA with REFERENCE:

orl-rat LD50:>800 mg/kg ARZNAD 50,60,2000

ipr-rat LD50:264 mg/kg ARZNAD 50,60,2000

ivn-rat LD50:107 mg/kg ARZNAD 50,60,2000

orl-mus LD50:2177 mg/kg ARZNAD 50,60,2000

ipr-mus LD50:63 mg/kg ARZNAD 50,60,2000

ivn-mus LD50:75800 µg/kg ARZNAD 50,60,2000

orl-rbt LD50:35400 µg/kg ARZNAD 50,60,2000

**SAFETY PROFILE:** A poison by intraperitoneal, intravenous, and intravenous routes. Moderately toxic by ingestion. When heated to decomposition it emits toxic vapors of  $NO_x$ .

**RKA000 CAS: 2750-76-7 HR: 3**

### RIFAMIDE

mf:  $C_{43}H_{58}N_2O_{13}$  mw: 811.03

**PROP:** Yellow-orange solid or crystals from  $C_6H_6$ /hexane. Mp: 170° (decomp).

**SYNS:** 4-o-(2-(DIETHYLAMINO)-2-OXOETHYL)RIFAMYCIN □ N,N-DIETHYL RIFAMYCIN B AMIDE □ NCI 143-418 □ NSC-133099 □ RIFAMPICIN M/14 □ RIFAMYCIN DIETHYLAMIDE □ RIFAMYCIN B N,N-DIETHYLAMIDE □ RIFAMYCIN M14 □ RIFOCINA M □ RIFOMIDE □ RIFOMYCIN B DIETHYLAMIDE

### TOXICITY DATA with REFERENCE:

ipr-rat LD50:535 mg/kg TXAPA9 8,126,66

scu-rat LD50:2500 mg/kg TXAPA9 8,126,66

ivn-rat LD50:380 mg/kg TXAPA9 8,126,66

orl-mus LD50:2450 mg/kg TXAPA9 8,126,66

ipr-mus LD50:320 mg/kg TXAPA9 8,126,66

scu-mus LD50:640 mg/kg TXAPA9 8,126,66

ivn-mus LD50:315 mg/kg TXAPA9 8,126,66

ivn-dog LDLo:425 mg/kg TXAPA9 8,126,66

**SAFETY PROFILE:** Poison by intraperitoneal and intravenous routes. Moderately toxic by ingestion and subcutaneous routes. Experimental reproductive effects. When heated to decomposition it emits toxic fumes of  $NO_x$ . Used as an antibacterial agent.

**RKK000 CAS: 13929-35-6 HR: 2**

### RIFAMYCIN

mf:  $C_{39}H_{49}NO_{14}$  mw: 755.89

**PROP:** Yellow, prismatic needles from  $C_6H_6$ /hexane. Mp: 300°, decomp @ 160–164°. Sol in MeOH,  $CHCl_3$ ,  $Me_2CO$ , and EtOAc.

### SYNS:

□ 4-o-(CARBOXYMETHYL)RIFAMYCIN □ NACIMYCIN □ NCI 145-604 □ RIFAMYCIN B □ RIFOMYCIN B

### TOXICITY DATA with REFERENCE:

ivn-rat LD50:1680 mg/kg 85ERAY 1,865,78

ivn-mus LD50:2040 mg/kg MEIEDD 10,1187,83

ivn-dog LD50:1200 mg/kg 85ERAY 1,865,78

ipr-gpg LD50:3000 mg/kg 85ERAY 1,865,78

**SAFETY PROFILE:** Moderately toxic by intravenous and intraperitoneal routes. When heated to decomposition it emits toxic fumes of  $NO_x$ . Used as an antibiotic.

**RKP000 CAS: 13292-46-1 HR: 3**

### RIFAMYCIN AMP

mf:  $C_{43}H_{58}N_4O_{12}$  mw: 823.05

**PROP:** Red-orange platelets from  $Me_2CO$ . Mp: 183–188° (decomp).

**SYNS:** ARCHIDYN □ ARFICIN □ DIONE 21-ACETATE □ L-5103 □ 3-(4-METHYLPYPERAZINYLMINOMETHYL)-RIFAMYCIN SV □ 8-(4-METHYLPYPERAZINYLMINOMETHYL)RIFAMYCIN SV □ 8-((4-METHYL-1-PIPERAZINYL)IMINO)-METHYL)RIFAMYCIN SV □ NSC-113926 □ R/AMP □ RIFA □ RIFADINE □ RIFAGEN □ RIFALDAZINE □ RIFALDIN □ RIFAMATE □ RIFAMPICIN □ RIFAMPICINE (FRENCH) □ RIFAMPICINUM □ RIFAMPIN □ RIFAPRODIN □ RIFINAH □

RIFOBAC □ RIFOLDIN □ RIFORAL □ RIMACTAN □  
RIMACTAZID □ TUBOCIN

**TOXICITY DATA with REFERENCE:**

dnr-esc 20 µL/disc MUREAV 97,1,82  
dni-hmn:hla 250 mg/L IJEB A6 22,350,84  
orl-mus TDLo:8400 mg/kg/60W-C:NEO TXAPA9  
43,293,78  
orl-hmn TDLo:180 mg/kg;SKN,EYE BMJOAE 2,1189,77  
orl-man TDLo:13 mg/kg/2D:EYE BMJOAE 1,199,76  
orl-man LDLo:857 mg/kg JAMAAP 240,2283,78  
orl-wmn TDLo:315 mg/kg/5W-I:SKN JAADDB  
17,303,87  
orl-rat LD50:1570 mg/kg JJANAX 23,257,70  
scu-rat LD50:534 mg/kg JJANAX 23,242,70  
scu-mus LD50:621 mg/kg JJANAX 23,242,70  
ivn-mus LD50:260 mg/kg ANBCB3 16,316,70

**CONSENSUS REPORTS:** IARC Cancer Review:  
Group 3 IMEMDT 7,56,87; Animal Limited Evidence  
IMEMDT 24,243,80; Human No Adequate Data  
IMEMDT 24,243,80.

**SAFETY PROFILE:** Suspected carcinogen with  
experimental neoplastigenic and teratogenic data. Poison  
by intraperitoneal and intravenous routes. Moderately  
toxic to humans by ingestion. Moderately experimentally  
toxic by ingestion and subcutaneous routes. Human  
systemic effects by ingestion: conjunctiva irritation, iritis  
(inflammation of the iris), other eye effects, dermatitis.  
Experimental reproductive effects. Human mutation data  
reported. When heated to decomposition it emits toxic  
fumes of NO<sub>x</sub>.

**RKP400 CAS: 14487-05-9 HR: 2  
RIFAMYCIN O**

mf: C<sub>39</sub>H<sub>49</sub>NO<sub>14</sub> mw: 755.89

**PROP:** Pale yellow crystals from methanol. Mp: 300°.  
Practically insol in dil acids; sol in alkaline solns and  
acetone tetrahydrofuran; sltly sol in methanol, ethanol,  
and ethyl acetate; practically insol in ether and pet ether.

**SYNS:** 4-*o*-(CARBOXYMETHYL)-1-DEOXY-1,4-DIHYDRO-4-  
HYDROXY-1-OXO-RIFAMYCIN γ-LACTONE □ RIFOMYCIN O

**TOXICITY DATA with REFERENCE:**

ipr-mus LD50:1000 mg/kg 85GDA2 2,462,80  
scu-mus LD50:3000 mg/kg 85GDA2 2,462,80  
ivn-mus LD50:1800 mg/kg 85FZAT -,566,67

**SAFETY PROFILE:** Moderately toxic by  
intraperitoneal, subcutaneous, and intravenous routes.  
When heated to decomposition it emits toxic fumes of  
NO<sub>x</sub>.

**RKU000 CAS: 13553-79-2 HR: 3  
RIFAMYCIN S**

mf: C<sub>37</sub>H<sub>45</sub>NO<sub>12</sub> mw: 695.83

**PROP:** Yellow-orange crystals from MeOH. Decomp @  
179–180°.

**SYNS:** 1,4-DIDEOXY-1,4-DIHYDRO-1,4-DIOXORIFAMYCIN □  
RIFOMYCIN S

**TOXICITY DATA with REFERENCE:**

orl-mus LD50:3 g/kg MEIEDD 10,1188,83  
ipr-mus LD50:258 mg/kg 85ERAY 1,865,78  
ivn-mus LD50:122 mg/kg 85ERAY 1,865,78

**SAFETY PROFILE:** Poison by intraperitoneal and  
intravenous routes. Moderately toxic by ingestion. When  
heated to decomposition it emits toxic fumes of NO<sub>x</sub>.

**RKZ000 CAS: 6998-60-3 HR: 3  
RIFAMYCIN SV**

mf: C<sub>37</sub>H<sub>47</sub>NO<sub>12</sub> mw: 697.85

**PROP:** Yellow-orange crystals. Mp: 300°. Sltly sol in  
water, petroleum ether; sol in ether, bicarbonate solutions;  
very sol in methanol, ethanol, acetone, ethyl acetate.

**SYNS:** M-14 □ RIFAMICINE SV □ RIFAMYCIN □ RIFOCIN □  
RIFOCYN □ RIFOMYCIN SV

**TOXICITY DATA with REFERENCE:**

pic-esc 100 ng/plate CNREA8 43,2819,83  
cyt-mus-mmr 6300 mmol/L/24H-C JTSCDR 5,141,80  
orl-mus LD50:2120 mg/kg JJANAX 23,242,70  
ipr-mus LD50:625 mg/kg MEIEDD 10,1188,83  
ivn-mus LD50:550 mg/kg JMCMA7 7,596,64  
ice-mus LD50:5800 µg/kg ARZNAD 15,951,65

**SAFETY PROFILE:** Poison by intracerebral route.  
Moderately toxic by ingestion, intraperitoneal, and  
intravenous routes. An experimental teratogen.  
Experimental reproductive effects. Mutation data  
reported. When heated to decomposition it emits toxic  
fumes of NO<sub>x</sub>. Used as an antibacterial agent.

**RKZ100 CAS: 61379-65-5 HR: 2  
RIFAPENTINE**

mf: C<sub>47</sub>H<sub>64</sub>N<sub>4</sub>O<sub>12</sub> mw: 877.15

**SYNS:** ANTIBIOTIC DL 473IT □ RIFAMYCIN AF/ACPP □ 3-(((4-  
CYCLOPENTYL-1-PIPERAZINYL)IMINO)METHYL)RIFAMYCIN  
□ 3-(4-CYCLOPENTYL-1-PIPERAZINYL)IMINOMETHYL-  
RIFAMYCIN SV □ DL 473 □ KTC 1 □ MDL 473 □ R-773 □  
RIFAMYCIN, 3-(((4-CYCLOPENTYL-1-PIPERAZINYL)IMINO)-  
METHYL)-

**TOXICITY DATA with REFERENCE:**

orl-rat LD50:>4 g/kg ZYZAEU 27,242,1992  
ipr-rat LD50:>2 g/kg ZYZAEU 27,242,1992  
orl-mus LD50:3300 mg/kg JANTAJ 34,1026,1981  
ipr-mus LD50:710 mg/kg JANTAJ 34,1026,1981

**SAFETY PROFILE:** Moderately toxic by ingestion and  
intraperitoneal routes. When heated to decomposition it  
emits toxic vapors of NO<sub>x</sub>.

**RLF350 CAS: 52315-07-8 HR: 3  
RIPCOP**

mf: C<sub>22</sub>H<sub>19</sub>Cl<sub>2</sub>NO<sub>3</sub> mw: 416.30

**PROP:** Viscous yellowish-brown semisolid mass  
(technical product). Very spar sol in H<sub>2</sub>O; sol in most org  
solvs.

**SYNS:** AMMO □ ARDAP □ AVICADE □ BARRICADE □ CCN52  
□ (±)-α-CYANO-3-PHENOXYBENZYL 2,2-DIMETHYL-3-(2,2-  
DICHLOROVINYL)CYCLOPROPANE CARBOXYLATE □  
CYMBUSH □ CYPERKILL □ CYPERMETHRIN □ FMC 30980 □  
FMC 45497 □ FMC 45806 □ IMPERATOR □ JF 5705F □ KAFIL  
SUPER □ NRDC 149 □ NRDC 160 □ NRDC 166 □ PP383 □  
SIPERIN □ STOCKADE □ WL 43467

**TOXICITY DATA with REFERENCE:**

mnt-mus-orl 756 mg/kg/7D-C MUREAV 155,135,85  
cyt-mus-unr 10 mg/kg TGANAK 18,455,84  
orl-rat LD50:57,500 µg/kg JEDIDP 11,331,90  
ihl-rat LC50:7889 mg/m<sup>3</sup>/4H DOVEAA 39(236),3,85

skn-rat LD50:>1600 mg/kg 85JFAN A110,84  
ivn-rat LDLo:6 mg/kg ARTODN 45,325,80  
orl-mus LD50:24,570 µg/kg JEDIDP 11,331,90

**CONSENSUS REPORTS:** EPA Genetic Toxicology Program. Cyanide and its compounds are on the Community Right-To-Know List.

**SAFETY PROFILE:** Poison by ingestion and intravenous routes. Moderately toxic by skin contact. An experimental teratogen. Experimental reproductive effects. Mutation data reported. When heated to decomposition it emits toxic fumes of CN<sup>-</sup>, NO<sub>x</sub>, and Cl<sup>-</sup>.

**RLF400 CAS: 115436-72-1 HR: D  
RISEDRONATE SODIUM**

mf: C<sub>7</sub>H<sub>10</sub>NO<sub>7</sub>P<sub>2</sub>•Na mw: 305.11

**SYNS:** MONOSODIUM (1-HYDROXY-2-(3-PYRIDINYL)ETHYLIDENE)BISPHOSPHONATE □ PHOSPHONIC ACID, (1-HYDROXY-2-(3-PYRIDINYL)ETHYLIDENE)BIS- MONOSODIUM SALT

**TOXICITY DATA with REFERENCE:**

orl-wmn TDLo:1800 µg/kg/3D-I:EYE LANCAO 341,436,1993

**SAFETY PROFILE:** Human systemic effects. When heated to decomposition it emits toxic vapors of NO<sub>x</sub> and PO<sub>x</sub>.

**RLK000 CAS: 298-59-9 HR: 3  
RITALIN HYDROCHLORIDE**

mf: C<sub>14</sub>H<sub>19</sub>NO<sub>2</sub>•ClH mw: 269.80

**PROP:** A solid. Mp: 204–208° (decomp). Sol in H<sub>2</sub>O; insol in Et<sub>2</sub>O.

**SYNS:** CENTEDRIN □ METHYLPHENIDATE HYDROCHLORIDE □ METHYLPHENIDYLACETATE HYDROCHLORIDE □ METHYL α-PHENYL-2-PIPERIDINEACETATE HYDROCHLORIDE □ RITALIN

**TOXICITY DATA with REFERENCE:**

otr-ham:emb 500 mg/L ENMUDM 8(Suppl 6),4,86  
orl-cld TDLo:32 mg/kg/6W-I:PSY BIPCBF 20,1332,85  
orl-rat LD50:367 mg/kg 27ZQAG -,264,72  
scu-rat LD50:170 mg/kg CLDND\* -,264,72  
orl-mus LD50:60 mg/kg JMCMAR 18,71,75  
ipr-mus LD50:167 mg/kg JMCMAR 14,1106,71  
scu-mus LD50:150 mg/kg JMCMAR 14,1106,71  
ivn-mus LDLo:40 mg/kg KLWOAZ 32,445,54

**SAFETY PROFILE:** Poison by ingestion, subcutaneous, intravenous, and intraperitoneal routes. Human systemic effects by ingestion: toxic psychosis. Mutation data reported. Used as a central nervous system stimulant. When heated to decomposition it emits very toxic fumes of HCl and NO<sub>x</sub>.

**RLK100 CAS: 87051-43-2 HR: 3  
RITANSERIN**

mf: C<sub>27</sub>H<sub>25</sub>F<sub>2</sub>N<sub>3</sub>OS mw: 477.58

**SYN:** 5H-THIAZOLO(3,2-A)PYRIMIDIN-5-ONE, 6-(2-(4-(FLUOROPHENYL)METHYLENE)-1-PIPERIDINYL)ETHYL)-7-METHYL-

**TOXICITY DATA with REFERENCE:**

ipr-rat TDLo:5 mg/kg BIPBU\* 24,1431,2001

**SAFETY PROFILE:** A poison by intraperitoneal route. When heated to decomposition it emits toxic vapors of NO<sub>x</sub>, F<sup>-</sup>, and SO<sub>x</sub>.

**RLK700 CAS: 23239-51-2 HR: 3  
RITODRINE HYDROCHLORIDE**

mf: C<sub>17</sub>H<sub>21</sub>NO<sub>3</sub>•ClH mw: 323.85

**PROP:** Crystals from EtOH/Et<sub>2</sub>O. Mp: 193–195° (decomp).

**SYNS:** DU 21220 □ erythro-p-HYDROXY-α-(1-((p-HYDROXY-PHENETHYL)AMINO)ETHYL)BENZYL ALCOHOL HYDROCHLORIDE □ PRE-PAR □ UTOPAR □ YUTOPAR

**TOXICITY DATA with REFERENCE:**

ivn-wmn TDLo:14,508 µg/kg/15H-C:SYS BMJOAE 2,1194,78

orl-rat LD50:1840 mg/kg KSRNAM 18,5704,84  
ipr-rat LD50:330 mg/kg KSRNAM 18,5704,84  
scu-rat LD50:980 mg/kg KSRNAM 18,5704,84  
orl-mus LD50:687 mg/kg YIGODN 16,122,85  
ipr-mus LD50:265 mg/kg YIGODN 16,122,85  
ivn-mus LD50:69 mg/kg YIGODN 16,122,85

**SAFETY PROFILE:** Poison by intravenous and intraperitoneal routes. Moderately toxic by ingestion. Human and experimental teratogen. Human and experimental reproductive effects. Human systemic effects: metabolic acidosis. When heated to decomposition it emits toxic fumes of NO<sub>x</sub> and HCl.

**RLK750 CAS: 143201-11-0 HR: 3  
RIVASTATIN**

mf: C<sub>26</sub>H<sub>33</sub>FNO<sub>5</sub>•Na mw: 481.59

**SYNS:** BAY-6228 □ CERIVASTATIN SODIUM □ 6-HEPTENOIC ACID, 7-(4-(4-FLUOROPHENYL)-5-(METHOXYMETHYL)-2,6-BIS(1-METHYLETHYL)-3-PYRIDINYL)-3,5-DIHYDROXY-, MONOSODIUM SALT, (S-(R\*,S\*-(E)))-

**TOXICITY DATA with REFERENCE:**

orl-rat LD50:416 mg/kg YAKUD5 42,402,2000  
orl-mus LD50:416 mg/kg YAKUD5 42,402,2000  
ivn-mus LD50:221 mg/kg YAKUD5 42,402,2000  
orl-dog LDLo:32 mg/kg YAKUD5 42,402,2000

**SAFETY PROFILE:** A poison by ingestion and intravenous routes. When heated to decomposition it emits toxic vapors of NO<sub>x</sub> and F<sup>-</sup>.

**RLK800 CAS: 53902-12-8 HR: 3  
RIZABEN**

mf: C<sub>18</sub>H<sub>17</sub>NO<sub>5</sub> mw: 327.36

**PROP:** Crystals from alc and chloroform. Mp: 267–269°.

**SYNS:** N-(3,4-DIMETHOXYCINAMOYL)ANTHRANILIC ACID □ N-(3',4'-DIMETHOXYCINAMOYL)ANTHRANILIC ACID □ TRANILAST

**TOXICITY DATA with REFERENCE:**

orl-rat LD50:1100 mg/kg IYKEDH 13,1128,82  
ipr-rat LD50:395 mg/kg IYKEDH 13,1128,82  
scu-rat LD50:3060 mg/kg IYKEDH 13,1128,82  
orl-mus LD50:680 mg/kg OYYAA2 19,503,80  
ipr-mus LD50:385 mg/kg OYYAA2 19,503,80  
scu-mus LD50:2630 mg/kg IYKEDH 13,1128,82

**SAFETY PROFILE:** Poison by intraperitoneal route. Moderately toxic by ingestion and subcutaneous routes. An experimental teratogen. Experimental reproductive effects. When heated to decomposition it emits toxic fumes of NO<sub>x</sub>.

**RLK875 HR: 1  
ROBAVERON**

**SYN:** SWINE PROSTATE EXTRACT

**TOXICITY DATA with REFERENCE:**

orl-rat LD50:184 g/kg NIIRDN 6,912,82  
 scu-rat LD50:146 g/kg NIIRDN 6,912,82  
 ivn-rat LD50:51 g/kg NIIRDN 6,912,82  
 orl-mus LD50:128 g/kg NIIRDN 6,912,82  
 scu-mus LD50:118 g/kg NIIRDN 6,912,82  
 ivn-mus LD50:107 g/kg NIIRDN 6,912,82

**SAFETY PROFILE:** Very mildly toxic by ingestion and other routes. An experimental teratogen. Experimental reproductive effects.

**RLK890 CAS: 25875-51-8 HR: 2**  
**ROBENIDINE**

mf: C<sub>15</sub>H<sub>13</sub>Cl<sub>2</sub>N<sub>5</sub> mw: 334.23

**PROP:** Crystals from ethanol. Mp: 289–290°.

**SYNS:** 1,3-BIS((p-CHLOROBENZYLIDENE)AMINO)GUANIDINE □ CARBO-NIMIDIC DIHYDRAZIDE, BIS((4-CHLOROPHENYL)METHYLENE)- □ CHEMCOCCIDE □ CHEMOCIDE □ CHIMCOCCIDE □ KHMCOCCID □ KHMCOECID □ KHMOKOTSID □ KHMOKOTSIDE

**TOXICITY DATA with REFERENCE:**

orl-rat LD50:1350 mg/kg VETNAL 57(9),53,81  
 orl-mus LD50:1212 mg/kg VETNAL 53(11),69,76  
 orl-rbt LD50:1245 mg/kg VETNAL 57(9),53,81  
 orl-ckn LD50:500 mg/kg VETNAL 57(9),53,81  
 orl-dck LD50:1017 mg/kg VETNAL 57(9),53,81

**SAFETY PROFILE:** Moderately toxic by ingestion. When heated to decomposition it emits toxic fumes of Cl<sup>-</sup> and NO<sub>x</sub>.

**RLP000 CAS: 490-31-3 HR: D**  
**ROBINETIN**

mf: C<sub>15</sub>H<sub>10</sub>O<sub>7</sub> mw: 302.25

**PROP:** Greenish-yellow needles from AcOH (aq). Mp: 325–330° (decomp).

**SYN:** 3,3',4',5',7'-PENTAHYDROXYFLAVANONE

**TOXICITY DATA with REFERENCE:**

mmo-sat 100 µg/plate BCSTB5 5,1489,77  
 mma-sat 100 µg/plate BCSTB5 5,1489,77

**SAFETY PROFILE:** Mutation data reported. When heated to decomposition it emits acrid smoke and irritating fumes.

**RLU000 CAS: 93-14-1 HR: 2**  
**ROBITUSSIN**

mf: C<sub>10</sub>H<sub>14</sub>O<sub>4</sub> mw: 198.24

**PROP:** Colorless crystals or powder. Mp: 78–79°. Sol in water, alc, ether, chloroform.

**SYNS:** ARESOL □ CORTUSSIN □ CRESON □ 1,2-DIHYDROXY-3-(2-METHOXYPHENOXY)PROPANE □ DILYN □ GAIMAR □ GLYCERIN GUAIACOLATE □ GLYCERINMONOGUAIACOL ETHER □ GLYCEROL GUAIACOLATE □ GLYCEROL-α-(o-METHOXYPHENYL)ETHER □ GLYCEROL-α-MONOGUAIACOL ETHER □ GLYCEROL MONO(2-METHOXYPHENYL)ETHER □ GLYCERYL GUAIACOLATE □ α-GLYCERYL GUAIACOLATE ETHER □ GLYCERYL GUAIACYL ETHER □ GLYCOTUSS □ GUAIACOLGLICERINETERE □ GUAIACOL GLYCERYL ETHER □ GUAIACURANE □ GUAIACYL GLYCERYL ETHER □ GUAIAMAR □ GUAIANESIN □ GUAIFENESIN □ GUAIPHENESINE □ GUAIACOL-GLYCERINAETHER (GERMAN) □ GUAIACOL-α-GLYCERINETHER □ HUSTODIL □ HUSTOSIL □ METFENO-

SSIDIOLO □ METHOXYPHENOXYDIOL □ 3-o-METHOXY-PHENOXYPROPANE 1:2-DIOL □ 3-(o-METHOXYPHENOXY)-1,2-PROPANEDIOL □ o-METHOXYPHENYL GLYCERYL ETHER □ METHOXYPROPANEDIOL □ METOSSIPROPANDIOLO □ MIOCURIN □ MIORELAX □ MYOCAINE □ MYORELAX □ MYOSCAINE □ NEUROTONE □ ORESOL □ ORESON □ PROPANOSEDYL □ REDUTON □ RELAXYL-G □ REORGANIN □ RESIL □ RESPENYL □ RITUSSIN □ SIROTOL □ SL-90 □ TOLSERON □ TOLYN □ TULYL □ XL-90

**TOXICITY DATA with REFERENCE:**

orl-rat LD50:1510 mg/kg PLRCAT 1,413,69  
 ipr-rat LDLo:1000 mg/kg AIPTAK 191,147,71  
 scu-rat LD50:2550 mg/kg NIIRDN 6,210,82  
 orl-mus LD50:690 mg/kg 27ZQAG -,398,72  
 ipr-mus LD50:495 mg/kg 27ZQAG -,398,72  
 scu-mus LD50:800 mg/kg ARZNAD 15,1355,65

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

**SAFETY PROFILE:** Moderately toxic by ingestion, intraperitoneal and subcutaneous routes. Used as a cough medicine. When heated to decomposition it emits acrid smoke and irritating fumes.

**RLU550 HR: D**  
**ROC-101**

**PROP:** An herbal preparation composed of a mixture of three different plants indigenous to India (IJMRAQ 60,1054,72).

**SAFETY PROFILE:** Experimental reproductive effects. When heated to decomposition it emits acrid smoke and irritating fumes.

**RLZ000 CAS: 1866-43-9 HR: 3**  
**ROLODINE**

mf: C<sub>14</sub>H<sub>14</sub>N<sub>4</sub> mw: 238.32

**PROP:** A solid. Mp: 205–207°.

**SYNS:** 4-(BENZYLAMINO)-2-METHYL-7H-PYRROLO(2,3-d)PYRIMIDINE □ BW 58-271 □ 2-METHYL-4-BENZYLAMINO-PYRROLO-(2,3d)PYRIMIDINE □ ROLODIN

**TOXICITY DATA with REFERENCE:**

orl-mus LD50:88 mg/kg 27ZQAG -,297,72  
 ipr-mus LD50:24 mg/kg 27ZQAG -,297,72

**SAFETY PROFILE:** Poison by ingestion and intraperitoneal routes. When heated to decomposition it emits toxic fumes of NO<sub>x</sub>.

**RMA000 CAS: 50471-44-8 HR: 1**  
**RONILAN**

mf: C<sub>12</sub>H<sub>9</sub>Cl<sub>2</sub>NO<sub>3</sub> mw: 286.12

**PROP:** Crystals. Sol in Me<sub>2</sub>CO, C<sub>6</sub>H<sub>6</sub>, CHCl<sub>3</sub>, and EtOAc; spar sol in H<sub>2</sub>O.

**SYNS:** BAS 352 F □ 3-(3,5-DICHLOROPHENYL)-5-ETHENYL-5-METHYL-2,4-OXAZOLIDINEDIONE □ 3-(3,5-DICHLOROPHENYL)-5-METHYL-5-VINYL-2,4-OXAZOLIDINEDIONE □ VINCLOZOLIN (GERMAN)

**TOXICITY DATA with REFERENCE:**

mma-sat 100 mg/L ATSUDG (5),345,82  
 mma-ssp 100 mg/L ATSUDG (5),345,82  
 orl-rat LD50:10 g/kg PEMNDP 9,859,91  
 ihl-rat LC50:>29,100 mg/m<sup>3</sup>/4H PEMNDP 9,859,91  
 skn-rat LD50:>2 g/kg FMCHA2 -,C322,91

orl-mus LD50:>10 g/kg DOVEAA 32,72,78  
ihl-rbt LC50:1170 mg/m<sup>3</sup>/4H FMCHA2 -,C322,91  
orl-gpg LD50:8000 mg/kg 85DPAN -,71/76

**SAFETY PROFILE:** Low toxicity by ingestion and inhalation. Mutation data reported. When heated to decomposition it emits very toxic fumes of Cl<sup>-</sup> and NO<sub>x</sub>.

**RMA500 CAS: 299-84-3 HR: 3**  
**RONNEL**

mf: C<sub>8</sub>H<sub>8</sub>Cl<sub>3</sub>O<sub>3</sub>PS mw: 321.54

**PROP:** White or crystalline powder. Mp: 41°, vap press: 8 × 10<sup>-4</sup> mm, bp: 97° @ 0.01 mm. IDLH 300 mg/m<sup>3</sup>.

**SYNS:** DERMAFOSU (POLISH) □ DERMAPHOS □ O,O-DIMETHYL-O-2,4,5-TRICHLOROPHENYL PHOSPHOROTHIOATE □ DIMETHYL TRICHLOROPHENYL THIOPHOSPHATE □ O,O-DIMETHYL-O-(2,4,5-TRICHLOROPHENYL)THIOPHOSPHATE □ O,O-DIMETHYL-O-(2,4,5-TRICHLOROPHENYL)-THIONOPHOSPHAT (GERMAN) □ DOW ET 14 □ DOW ET 57 □ ECTORAL □ ENT 23,284 □ ET 14 □ ET 57 □ ETROLENE □ FENCHLOORFOS (DUTCH) □ FENCHLORFOS □ FENCHLORFOSU (POLISH) □ FENCHLOROPHOS □ FENCHLORPHOS □ KARLAN □ KORLAN □ KORLANE □ NANCHOR □ NANKER □ NANKOR □ THIOPHOSPHATE de O,O-DIMETHYLE et de O-(2,4,5-TRICHLOROPHENYLE) (FRENCH) □ O-(2,4,5-TRICHLOROPHENYL)-O,O-DIMETHYL-MONOTHIOFOSFAAT (DUTCH) □ TRI-CHLOROMETAFOS □ 2,4,5-TRICHLOROPHENOL, O-ESTER with O,O-DIMETHYL PHOSPHOROTHIOATE □ O-(2,4,5-TRICHLOROPHENYL)-O,O-DIMETHYL-MONOTHIOFOSPHAT (GERMAN) □ O-(2,4,5-TRICHLORO-FENIL)-O,O-DIMETILMONOTIOFOSF-ATO (ITALIAN) □ TROLEN □ TROLENE □ VIOZENE

#### TOXICITY DATA with REFERENCE:

sce-hmn:lyms 2 mg/L MUREAV 102,89,82  
orl-rat LD50:625 mg/kg GISAAA 45(6),14,80  
skn-rat LD50:2000 mg/kg WRPCA2 9,119,70  
ipr-rat LD50:2823 mg/kg PSEBAA 129,699,68  
orl-mus LD50:2000 mg/kg PCOC\*\* -,965,66  
ipr-mus LD50:118 mg/kg PSEBAA 129,699,68  
orl-dog LD50:500 mg/kg 85GYAZ -,26,71  
orl-rbt LD50:420 mg/kg PCOC\*\* -,965,66  
skn-rbt LD50:1 g/kg FMCHA2 -,C252,89  
skn-gpg LD50:2000 mg/kg 85DPAN -,71/76

**CONSENSUS REPORTS:** Chlorophenol compounds are on the Community Right-To-Know List.

**OSHA PEL:** TWA 10 mg/m<sup>3</sup>

**ACGIH TLV:** TWA 10 mg/m<sup>3</sup>; Not Classifiable as a Human Carcinogen

**SAFETY PROFILE:** Poison by ingestion and intraperitoneal routes. Moderately toxic by skin contact. A cholinesterase inhibitor. An experimental teratogen. Experimental reproductive effects. Human mutation data reported. When heated to decomposition it emits very toxic fumes of Cl<sup>-</sup>, PO<sub>x</sub>, and SO<sub>x</sub>. See also PARATHION and CHLOROPHENOLS.

**ANALYTICAL METHOD:** For occupational chemical analysis use NIOSH: Ronnel, S299.

**RMA600 CAS: 98717-16-9 HR: D**  
**ROPIVACAINE**

mf: C<sub>17</sub>H<sub>26</sub>N<sub>2</sub>O mw: 274.41

**SYNS:** N-(2,6-DIMETHYLPHENYL)-1-PROPYL-2-PIPERIDINECARBOXAMIDE(R)- □ 2-PIPERIDINECARBOXAMIDE, N-(2,6-DIMETHYLPHENYL)-1-PROPYL-(R)-(9CI)

#### TOXICITY DATA with REFERENCE:

unr-wmn TDLo:5357 µg/kg/9M-I:BAH,PUL AINCB\* 28,705,2000

**SAFETY PROFILE:** Human systemic effects When heated to decomposition it emits toxic vapors of NO<sub>x</sub>.

**RMF000 CAS: 35834-26-5 HR: 3**  
**ROSAMICIN**

mf: C<sub>31</sub>H<sub>51</sub>NO<sub>9</sub> mw: 581.83

**PROP:** Crystals from CHCl<sub>3</sub>. Mp: 119–122°. Very sol in methanol, acetone, chloroform, benzene; sltly sol in ether, water.

**SYNS:** ANTIBIOTIC 67-694 □ ANTIBIOTIC M 4365A2 □ 4'-DEOXYCIRRAMYCIN A1 □ JUVENIMICIN A3 □ M-4365A2 □ ROSARAMICIN □ Sch 14947

#### TOXICITY DATA with REFERENCE:

orl-mus LD50:1000 mg/kg 85ESA3 9,1071,76  
ipr-mus LD50:350 mg/kg 85ERAY 1,62,78  
scu-mus LD50:625 mg/kg 85ERAY 1,62,78

**SAFETY PROFILE:** Poison by intraperitoneal route. Moderately toxic by ingestion and subcutaneous routes. When heated to decomposition it emits toxic fumes of NO<sub>x</sub>. Used as an antibacterial agent.

**RMK000 HR: D**  
**p-ROSANILINE**

mf: C<sub>20</sub>H<sub>19</sub>N<sub>3</sub> mw: 301.42

**PROP:** Brownish-red crystals. Decomp @ 186°. Sltly sol in water; sol in alc, acids.

**SYNS:** 4-((4-AMINOPHENYL)(4-IMINO-2,5-CYCLOHEXADIEN-1-YLIDENE)METHYL)-2-METHYLBENZENAMINE □ 4-((p-AMINOPHENYL)(4-IMINO-2,5-CYCLOHEXADIEN-1-YLIDENE)-METHYL)-o-TOLUIDINE

#### TOXICITY DATA with REFERENCE:

mno-esc 5 g/L MUREAV 130,97,84  
otr-ham:emb 2 mg/L NCIMAV 58,243,81

**SAFETY PROFILE:** Mutation data reported. When heated to decomposition it emits toxic fumes of NO<sub>x</sub>.

**RMK020 CAS: 569-61-9 HR: 3**  
**p-ROSANILINE HYDROCHLORIDE**

mf: C<sub>19</sub>H<sub>17</sub>N<sub>3</sub>•ClH mw: 323.85

**PROP:** Colorless to red crystals. Mp: 268–270°. Sol in water: <0.1 mg/ml @ 20°.

**SYNS:** 4-((4-AMINOPHENYL)(4-IMINO-2,5-CYCLOHEXADIEN-1-YLIDENE)METHYL), MONOCHLORIDE □ BASIC PARAFUCHSINE □ CALCOZINE MAGENTA N □ C.I. 42500 □ C.I. BASIC RED 9, MONOHYDROCHLORIDE □ p-FUCHSIN □ FUCHSINE DR-001 □ FUCHSINE SPC □ 4,4'-((4-IMINO-2,5-CYCLOHEXADIEN-1-YLIDENE)METHYLENE)DIANILINE MONOHYDROCHLORIDE-o-TOLUIDINE □ NCI-C54739 □ PARAFUCHSIN (GERMAN) □ PARA-MAGENTA □ PARAROSANILINE □ PARAROSANILINE CHLORIDE □ PARAROSANILINE HYDROCHLORIDE □ p-ROSANILINE HCL □ SCHULTZ-TAB No. 779 (GERMAN) □ 4,4'-TRIAMINOTRI-PHENYLMETHAN-HYDROCHLORID (GERMAN)

#### TOXICITY DATA with REFERENCE:

mma-sat 100 µg/plate ENMUDM 6(Suppl 2),1,84  
otr-ratemb 1400 µg/L JJIND8 67,1303,81  
orl-rat TDLo:728 mg/kg/2Y-C:CAR NTPTR\* NTP-TR-285,86  
orl-mus LD50:5000 mg/kg FAZMAE 17,108,73

**CONSENSUS REPORTS:** NTP 10th Report on Carcinogens. IARC Cancer Review: Animal Sufficient Evidence IMEMDT 57,215,93; Animal Inadequate Evidence IMEMDT 4,57,74; Human Inadequate Evidence IMEMDT 4,57,74; Human Inadequate Evidence IMEMDT 57,215,93; Group 2B IMEMDT 57,215,93. EPA Genetic Toxicology Program. Reported in EPA TSCA Inventory.

**SAFETY PROFILE:** Confirmed carcinogen with experimental carcinogenic and tumorigenic data. Mildly toxic by ingestion. Mutation data reported. When heated to decomposition it emits very toxic fumes of HCl and NO<sub>x</sub>.

**RMK200 CAS: 52934-83-5 HR: 3  
ROSANOMYCIN A**

mf: C<sub>16</sub>H<sub>14</sub>O<sub>6</sub> mw: 302.30

**PROP:** Orange needles from EtOH. Mp: 178–180°.

**SYNS:** ANTIBIOTIC OS 3966A □ NANAOMYCIN A □ OS-3966-A

**TOXICITY DATA with REFERENCE:**

scu-rat LD50:52 mg/kg JJANAX 33,728,80  
skn-mus LD50:52 mg/kg JJANAX 33,728,80  
ipr-mus LD50:28 mg/kg 85ERAY 1,551,78  
scu-mus LD50:56 mg/kg JJANAX 33,728,80  
ivn-mus LD50:52 mg/kg JJANAX 33,728,80

**SAFETY PROFILE:** Poison by skin contact, subcutaneous, intravenous, and intraperitoneal routes. When heated to decomposition it emits acrid smoke and irritating fumes.

**RMK250 HR: 3  
ROSARY PEA**

**PROP:** A slender climbing vine considered a common weed in Hawaii, Guam, and the Caribbean, including Florida. A pea-shaped pod about 1.5 inches long contains 3 to 5 bright red pea-size seeds with a black spot. They are used in jewelry and charms.

**SYNS:** ABRUS PRECATORIUS L. (SEED) □ BLACK EYED SUSAN □ CORAL BEAD PLANT □ CRAB'S EYES □ GRAINES D'EGLISE (GUADELOUPE) □ LICORICE VINE □ KOLALES HALOMTANO (GUAM) □ JUMBEE BEADS (VIRGIN ISLANDS) □ LOVE BEAD □ OJO de CANGREJO (PUERTO RICO) □ PEONIA (CUBA) □ PERONIAS (PUERTO RICO) □ PRAYER BEADS □ PUKIAWE-LEI (HAWAII) □ RED BEAD VINE □ REGLISSE (GUADELOUPE and HAITI) □ SEMILLA de CULEBRA (MEXICO) □ SEMINOLE BEAD □ WEATHER PLANT □ WILD LICORICE

**SAFETY PROFILE:** The seeds contain the poison abrin, a plant lectin which inhibits cell growth. The seed must be chewed or broken open to be poisonous. However, chewing and ingesting one seed could be fatal. Human systemic effects by ingestion: nausea, vomiting, diarrhea, loss of intestinal function, and lesions of the gastrointestinal tract. Symptoms may develop over a period from several hours to three days, depending on the dose. See also ABRIN.

**RMP000 CAS: 84604-12-6 HR: 1  
ROSE ABSOLUTE FRENCH**

**PROP:** Isolated from the flowers of *Rosa centifolia* L. (Fam. *Rosaceae*) (FCTXAV 13,68175).

**SYNS:** ABSOLUTE FRENCH ROSE □ FRENCH ROSE ABSOLUTE □ ROSE de MAI ABSOLUTE

**TOXICITY DATA with REFERENCE:**

skn-rbt 500 mg/24H MOD FCTXAV 13,681,75

**SAFETY PROFILE:** A skin irritant. When heated to decomposition it emits acrid smoke and irritating fumes.

**RMP175 CAS: 632-69-9 HR: 2  
ROSE BENGAL SODIUM**

mf: C<sub>20</sub>H<sub>2</sub>Cl<sub>4</sub>I<sub>4</sub>O<sub>5</sub>•2Na mw: 1017.60

**PROP:** Food red color.

**SYNS:** FOOD RED COLOR No. 105, SODIUM SALT □ FOOD RED No. 105, SODIUM SALT □ R105 SODIUM □ 9-(3',4',5',6'-TETRACHLORO-*o*-CARBOXYPHENYL)-6-HYDROXY-2,4,5,7-TETRAIODO-3-ISOXANTHONE•2Na □ 4,5,6,7-TETRACHLORO-2',4',5',7'-TETRAIODOFLUORESCIN DISODIUM SALT

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

**SAFETY PROFILE:** An experimental teratogen. Experimental reproductive effects. Questionable carcinogen with experimental neoplastigenic data. When heated to decomposition it emits toxic fumes of Cl<sup>-</sup>, I<sup>-</sup>, and Na<sub>2</sub>O.

**RMU000 CAS: 8000-25-7 HR: 1  
ROSEMARY OIL**

**PROP:** Constituents are α-pinene, camphene, and cineole. From steam distillation of flowering tops of *Rosmarinus officinalis* L. (Fam. *Labiatae*) (FCTXAV 12,807,74). Colorless to pale-yellow liquid; odor of rosemary. D: 0.894–0.912, refr index: 1.464 @ 20°.

**SYNS:** ROSEMARIE OIL □ ROSMARIN OIL (GERMAN)

**TOXICITY DATA with REFERENCE:**

skn-rbt 500 mg/24H MOD FCTXAV 12,977,74  
orl-rat LD50:5000 mg/kg FCTXAV 12,977,74  
skn-rbt LD50:>10 g/kg FCTXAV 12,977,74

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

**SAFETY PROFILE:** Low toxicity by ingestion and skin contact. A skin irritant. When heated to decomposition it emits acrid smoke and irritating fumes. See also individual components.

**RMU100 CAS: 12687-98-8 HR: 3  
ROSEOFUNGIN**

**SYN:** ROZEOFUNGIN

**TOXICITY DATA with REFERENCE:**

ipr-mus LD50:140 mg/kg ANTBAL 29,344,84  
ivn-mus LD50:16,500 µg/kg ANTBAL 29,344,84

**SAFETY PROFILE:** A poison by intraperitoneal and intravenous routes. When heated to decomposition it emits acrid smoke and irritating vapors.

**RNA000 CAS: 8007-01-0 HR: 2  
ROSE OIL**

**PROP:** Volatile oil from steam distillation of fresh flowers of *Rosa gallica* L. and *Rosa Damascena* Mill. and varieties of these species (Fam. *Rosaceae*). Colorless to yellow liquid; odor and taste of rose. D: 0.848–0.863 @ 30°/15°, refr index: 1.457 @ 30°.

**SYNS:** ATTAR ROSE □ ATTAR of ROSE □ ESSENCE of ROSE □ OIL OF ROSE □ OIL OF ROSE BLOSSOM □ OIL OF ROSE BULGARIAN □ OTTO ROSE □ OTTO of ROSE □ ROSE de GRASSE □ ROSE de MAI □ ROSEN OEL (GERMAN) □ ROSENOL □ ROSE OIL BULGARIAN □ ROSE OTTO

**TOXICITY DATA with REFERENCE:**

skn-rbt 500 mg/24H MLD FCTXAV 12,979,74  
 orl-rat LD50:12,560 mg/kg PHARAT 14,435,59  
 skn-rbt LD50:2500 mg/kg FCTXAV 12,979,74

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

**SAFETY PROFILE:** Moderately toxic by skin contact. Mildly toxic by ingestion. When heated to decomposition it emits acrid smoke and irritating fumes.

**RNF000 CAS: 8007-01-0 HR: 2**  
**ROSE OIL BULGARIAN**

**PROP:** Main constituents are 1-citronellol and geraniol, found in plant *Rosa damascena* Mill. *Var. Alba*. (FCTXAV 12,807,74).

**SYNS:** BULGARIAN □ OIL OF ROSE BULGARIAN □ OTTO of ROSE

**TOXICITY DATA with REFERENCE:**

skn-rbt 500 mg/24H MLD FCTXAV 12,807,74  
 skn-rbt LD50:2500 mg/kg FCTXAV 12,807,74

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

**SAFETY PROFILE:** Moderately toxic by skin contact. A skin irritant. When heated to decomposition it emits acrid smoke and irritating fumes. See also individual components.

**RNK000 CAS: 84604-12-6 HR: 1**  
**ROSE OIL MOROCCAN**

**PROP:** By steam distillation of the flowers of *Rosa centifolia* L., mainly 1-citronellol and geraniol (FCTXAV 12,807,74).

**SYN:** OIL OF ROSE MOROCCAN

**TOXICITY DATA with REFERENCE:**

skn-rbt 500 mg/24H MOD FCTXAV 12,807,74

**SAFETY PROFILE:** A skin irritant. When heated to decomposition it emits acrid smoke and irritating fumes. See also individual components.

**RNU000 CAS: 16409-43-1 HR: 1**  
**ROSE OXIDE LEVO**

mf: C<sub>10</sub>H<sub>18</sub>O mw: 154.28

**PROP:** Almost colorless liquid with green, powerful, fresh geranium odor. D: 0.8678–0.8715 @ 25°, bp: 230°. Flash pt: 65° C. Slt sol in water.

**SYNS:** PYRAN, 2-(2-METHYL-1-PROPENYL)-4-METHYL-TETRAHYDRO- □ ROSENOXIDE □ ROSE OXIDE □ ROSE OXIDE LEVO □ ROSOXIDE □ TETRAHYDRO-4-METHYL-2-(2-METHYLPROPEN-1-YL)PYRAN

**TOXICITY DATA with REFERENCE:**

skn-rbt 500 mg/24H MOD FCTXAV 14,659,76  
 orl-rat LD50:4300 mg/kg FCTXAV 14,659,76

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

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

**RNU100 CAS: 8050-09-7 HR: 3**  
**ROSIN CORE SOLDER PYROLYSIS PRODUCTS**

**SYNS:** BALS 3A □ BANDIS G100 □ RONDIS R □ EM 3 □ HIGHROSIN □ HONGKONG ROSIN WW □ KE 709 □ ROSIN □ ROSIN WW □ SHIRAGIKU ROSIN □ YELLOW RESIN

**TOXICITY DATA with REFERENCE:**

ihl-rat LC50:110 mg/m<sup>3</sup> VCVPS\*,294,1998  
 orl-mus LD50:2.2 mg/kg VCVPS\*,294,1998  
 orl-rat LD50:3.0 mg/kg VCVPS\*,294,1998

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

**ACGIH TLV:** Reduce to as low as possible

**SAFETY PROFILE:** A poison by ingestion and inhalation route. When heated to decomposition it emits acrid smoke and irritating vapors.

**RNZ000 CAS: 83-79-4 HR: 3**  
**ROTENONE**

mf: C<sub>23</sub>H<sub>22</sub>O<sub>6</sub> mw: 394.45

**PROP:** Orthorhombic plates or crystals from Me<sub>2</sub>CO (aq). Mp: 163° (dimorphic form mp: 185–186°). D: 1.27 @ 20°. Almost insol in water; sol in alc, acetone, carbon tetrachloride, chloroform, ether, and other org solvs.

Decomp on exposure to light and air.

**SYNS:** BARBASCO □ CENOL GARDEN DUST □ CHEM FISH □ CHEM-MITE □ CUBE □ CUBE EXTRACT □ CUBE-PULVER □ CUBE ROOT □ CUBOR □ CUREX FLEA DUSTER □ DACTINOL □ DERIL □ DERRIN □ DERRIS □ DRI-KIL □ ENT 133 □ EXTRAX □ FISH-TOX □ GREEN CROSS WARBLE POWDER □ HAIARI □ LIQUID DERRIS □ MEXIDE □ NCI-C55210 □ NICOULINE □ NOXFISH □ PARADERIL □ POWDER and ROOT □ PRENTOX □ RO-KO □ RONONE □ ROTEFIVE □ ROTEFOUR □ ROTENONA (SPANISH) □ ROTESSENOL □ ROTOCIDE □ TUBATOXIN

**TOXICITY DATA with REFERENCE:**

eye-rbt 1% MLD PSEBAA 34,135,36  
 mnt-mus:oth 1 mg/L JNCIAM 56,357,76  
 orl-hmn LDLo:143 mg/kg 34ZIAG -,521,79  
 unr-man LDLo:294 mg/kg 85DCAI 2,73,70  
 orl-rat LD50:60 mg/kg DOEAH 36,25,79  
 ipr-rat LD50:5 mg/kg JAFCAU 17,497,69  
 orl-mus LD50:350 mg/kg 31ZOAD 1,372,68  
 ipr-mus LD50:2650 µg/kg RAREAE 91,186,82  
 orl-dog LDLo:300 mg/kg JPETAB 43,193,31  
 orl-gpg LDLo:100 mg/kg PSEBAA 34,135,36  
 ipr-gpg LDLo:10 mg/kg PSEBAA 34,135,36

**OSHA PEL:** TWA 5 mg/m<sup>3</sup>

**ACGIH TLV:** TWA 5 mg/m<sup>3</sup>; Not Classifiable as a Human Carcinogen

**DFG MAK:** 5 mg/m<sup>3</sup>

**SAFETY PROFILE:** Human poison by ingestion. Experimental poison by ingestion and intraperitoneal routes. Experimental reproductive effects. Mutation data reported. A skin and eye irritant. Acute poisoning causes numbness, nausea, vomiting, and tremors. Questionable carcinogen with experimental neoplastigenic, tumorigenic, and teratogenic data. Chronic exposure injures liver and kidneys. It is toxic to animals and very toxic to fish, but leaves no harmful residue on vegetable crops. When heated to decomposition it emits acrid smoke and irritating fumes. Used as an insecticide and as a fish poison.

**ANALYTICAL METHOD:** For occupational chemical analysis use NIOSH: Rotenone, 5007.

**ROA300****HR: 1****ROUGE PLANT**

**PROP:** A small shrub which grows to 3 feet. The pink-white flowers hang in clusters. The berries are brilliant orange or red. They grow wild in the southern United States from New Mexico to Florida, Hawaii, and the West Indies. They are a popular house plant.

**SYNS:** BABY PEPPER □ BLOODBERRY □ CAIMONICILLO (DOMINICAN REPUBLIC) □ CARMIN (PUERTO RICO) □ CAT'S BLOOD □ CORAL BERRY □ CORALITOS (CUBA) □ PIGEON BERRY □ RIVINA HUMILIS

**SAFETY PROFILE:** The leaves and roots contain the poisons phytolaccatoxin and related triterpenes. The berries apparently contain little or no toxin. Ingestion may cause nausea, vomiting, and diarrhea.

**ROA400****CAS: 65546-74-9****HR: 2****ROWACHOL**

**PROP:** Liquid.

**TOXICITY DATA with REFERENCE:**

orl-rat LD50:6500 mg/kg NIIRDN 6,916,82  
 ipr-rat LD50:2250 mg/kg YACHDS 5,943,77  
 orl-mus LD50:4400 mg/kg YACHDS 5,943,77  
 ipr-mus LD50:2500 mg/kg YACHDS 5,943,77

**SAFETY PROFILE:** Moderately toxic by intraperitoneal route. Mildly toxic by ingestion. An experimental teratogen. Experimental reproductive effects.

**ROA425****HR: 2****ROWATIN**

**PROP:** Contains 31% pinene, 1% camphene, 10% borneol, 4% anethol, 4% fenchon, 3% eucalyptol, in olive oil (NIIRDN 6,916,82).

**TOXICITY DATA with REFERENCE:**

orl-rat LD50:5 g/kg NIIRDN 6,916,82  
 ipr-rat LD50:2600 mg/kg YACHDS 5,943,77  
 orl-mus LD50:5400 mg/kg YACHDS 5,943,77  
 ipr-mus LD50:4400 mg/kg YACHDS 5,943,77

**SAFETY PROFILE:** Moderately toxic by intraperitoneal route. Mildly toxic by ingestion. An experimental teratogen. Experimental reproductive effects. When heated to decomposition it emits acrid smoke and irritating fumes. See also individual components.

**ROF200****CAS: 55102-43-7****HR: 3****RPCNU**

mf:  $C_{15}H_{22}ClN_3O_{10}$  mw: 439.85

**SYNS:** 1-(2-CHLOROETHYL)-1-NITROSO-3-RIBOPYRANOSYLUREA-2',3',4'-TRIACETATE □ (CHLORO-2-ETHYL)-1-(RIBOPYRANOSYLTRIACETATE-2',3',4')-3-NITROSOUREA □ (CLORO-2-ETIL)-1-(RIBOPIRANOSILTRIACETATO-2',3',4')-3-NITROSOUREA (ITALIAN) □ I.C.I.G. 1163

**TOXICITY DATA with REFERENCE:**

mmo-sat 200 µg/plate INSSDM 19,165,81  
 dns-hmn:lym 10 mg/L FRPSAX 36,947,81  
 dni-hmn:lym 10 mg/L FRPSAX 36,947,81

oms-mus:oth 50 mg/L INSSDM 19,229,81  
 ipr-mus LD50:50 mg/kg INSSDM 19,123,81

**SAFETY PROFILE:** Poison by intraperitoneal route. Human mutation data reported. Many N-nitroso compounds are carcinogens. When heated to decomposition it emits toxic fumes of  $Cl^-$  and  $NO_x$ . See also N-NITROSO COMPOUNDS.

**ROF300****CAS: 135-51-3****HR: D****R SALT**

mf:  $C_{10}H_6O_7S_2 \cdot 2Na$  mw: 348.26

**SYNS:** FERRICON □ 2-NAPHTHOL-3,6-DISULFONIC ACID SODIUM SALT

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

**SAFETY PROFILE:** An experimental teratogen. Experimental reproductive effects. When heated to decomposition it emits toxic fumes of  $SO_x$  and  $Na_2O$ . See also SULFONATES.

**ROH900****CAS: 9006-04-6****HR: 3****RUBBER, NATURAL**

**SYNS:** CAOUTCHOUC □ GUM NAFKACRYSTAL □ INDIA RUBBER □ NAFKA □ NAFKA CRYSTAL GUM □ NAFKA KRISTALGOM □ NATURAL RUBBER □ RUBBER □ THIOKOL NVT

**TOXICITY DATA with REFERENCE:**

mma-sat 100 mg/plate EVSRBT 27,541,83

**ACGIH TLV:** (Proposed: 0.001 mg/m<sup>3</sup> (skin, sensitizer))

**SAFETY PROFILE:** Mutation data reported. A fire hazard when exposed to heat or flame. When heated to decomposition it emits toxic fumes of  $SO_x$ .

**ROU000****HR: 3****RUBBER SOLVENT**

**PROP:** A petroleum cut distilling between 38 and 149°C consisting chiefly of  $C_5$  to  $C_9$  aliphatic hydrocarbons used in making rubber cements and in tire manufacture. Flash p: -40°F (varies with manufacturer), autoign temp: 450°F (varies with manufacturer), lel: 1.0%, uel: 7.0%, d: <1, bp: 100–280°F. Insol in water (27ZTAP 3,124,69).

**SYNS:** LACQUER DILUENT □ NAPHTHA □ SKELLY-SOLVE-L

**TOXICITY DATA with REFERENCE:**

ihl-rat LC50:61 g/m<sup>3</sup>/4H TXAPA9 33,526,75  
 ihl-cat LCLo:49 g/m<sup>3</sup>/4H TXAPA9 33,526,75

**ACGIH TLV:** TWA 400 ppm

**NIOSH REL:** TWA (Petroleum Solvent) 350 mg/m<sup>3</sup>; CL 1800 mg/m<sup>3</sup>/15M

**SAFETY PROFILE:** Mildly toxic by inhalation. A very dangerous fire hazard when exposed to heat or flame. Explosive in the form of vapor when exposed to heat or flame. To fight fire, use foam, alcohol foam. When heated to decomposition it emits acrid smoke and irritating fumes.

**ROU450****HR: 3****RUBBER VINE**

**PROP:** Woody vines with shiny green leaves 3 to 4 inches long and flowers ranging in color from lilac to purple to red depending on the species. The seeds are contained in milkweed-like pods. They are cultivated in

southern Florida and grow wild in the West Indies and Guam.

**SYNS:** ALAMANDA MORADA FALSA (PUERTO RICO) □ CAOUTCHOUC (HAITI) □ CRYPTOSTEGIA GRANDIFLORA □ CRYPTOSTEGIA MADAGASCARIENSIS □ ESTRELLA DEL NORTE (CUBA) □ INDIA RUBBER VINE □ PICHUCO (MEXICO) □ PURPLE ALLAMANDA

**SAFETY PROFILE:** The whole plant contains poisonous cardiac glycosides similar to digitalis. Human systemic effects by ingestion include: mouth pain, nausea, vomiting, abdominal pain, cramps and diarrhea. Cardiac glycosides may cause death by their effect on heart function. See also DIGITALIS.

**ROU500 CAS: 26388-47-6 HR: D**  
**RUBIADIN-PRIMVEROSIDE**

mf:  $C_{26}H_{28}O_{13}$  mw: 548.54

**SYNS:** GLUCOPYRANOSIDE, 4-HYDROXY-3-METHYL-2-ANTHRAQUINONYL 6- $\alpha$ - $\beta$ -D-XYLOPYRANOSYL-,  $\beta$ -d- □  $\beta$ -d-4-HYDROXY-3-METHYL-2-ANTHRAQUINONYL-6- $\alpha$ - $\beta$ -D-XYLOPYRANOSYLGLUCOPYRANOSIDE □ RUBIADINPRIMEVEROSIDE

**TOXICITY DATA with REFERENCE:**

mic-sat 1  $\mu$ Lg/plate MUREAV 265,263,1992

dns-rat-lvr 4 mg/L MUREAV 265,263,1992

**SAFETY PROFILE:** Mutation data reported. When heated to decomposition it emits acrid smoke and irritating vapors.

**ROU800 CAS: 54083-22-6 HR: D**  
**RUBIDAZONE**

mf:  $C_{34}H_{35}N_3O_{10}$  mw: 645.72

**SYNS:** BENZOYLHYDRAZONE DAUNORUBICIN □ DAUNOMYCIN BENZOYLHYDRAZONE □ RUBIDAZON □ ZORUBICIN

**TOXICITY DATA with REFERENCE:**

mno-sat 10  $\mu$ g/plate EJCDS 19,641,83

dni-hmn:oth 500  $\mu$ g/L CCPHDZ 2,31,79

**SAFETY PROFILE:** Human mutation data reported. When heated to decomposition it emits toxic fumes of  $NO_x$ . See also RUBIDAZONE MONOHYDROCHLORIDE.

**ROZ000 CAS: 36508-71-1 HR: 3**  
**RUBIDAZONE MONOHYDROCHLORIDE**

**PROP:** A solid. Mp: 245–248°. A semisynthetic daunorubicin derivative (CTRRDO 62,1053,78).

**SYNS:** BENZOIC ACID HYDRAZIDE, 3-HYDRAZONE with DAUNORUBICIN, MONOHYDROCHLORIDE □ DAUNORUBICIN, BENZOYLHYDRAZONE, MONOHYDROCHLORIDE □ NSC-164011 □ 22050 R.P. □ RP 22,050 HYDROCHLORIDE □ ZORUBICIN HYDROCHLORIDE

**TOXICITY DATA with REFERENCE:**

mno-sat 20  $\mu$ g/plate EJCAAH 19,641,83

mma-sat 4  $\mu$ g/plate EJCAAH 19,641,83

pic-esc 700  $\mu$ g/L MUREAV 77,197,80

oms-hmn:lym 1 mg/L EJCAAH 14,741,78

ivn-hmn TDLo:48 mg/kg/21D-I:CVS,GIT,BLD CTRRDO 62,1053,78

ipr-mus LD50:28,710  $\mu$ g/kg NCISP\* JAN86

**SAFETY PROFILE:** Poison by intraperitoneal route. Human systemic effects by intravenous route: cardiovascular, blood, and gastrointestinal system effects.

Human mutation data reported. When heated to decomposition it emits very toxic fumes of  $NO_x$  and HCl. Used as an antineoplastic agent. See also RUBIDAZONE.

**RPA000 CAS: 7440-17-7 HR: 3**  
**RUBIDIUM**

**DOT:** UN 1423

af: Rb aw: 85.47

**PROP:** Soft, silvery-white metal. Tarnishes in air forming rubidium oxides, carbonates, and hydroxide. Mp: 39.5°, bp: 688°, d (solid): 1.532 @ 20°, d (liquid): 1.475 @ 39°. Sol in  $NH_3$ .

**TOXICITY DATA with REFERENCE:**

ipr-mus LD50:1200 mg/kg 85IXA4 -,704,48

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

**DOT CLASSIFICATION:** 4.3; Label: Dangerous When Wet

**SAFETY PROFILE:** Moderately toxic by intraperitoneal route. A very reactive alkali metal (more reactive than potassium or cesium). In the body, rubidium substitutes for potassium as an intracellular ion. The ratio of Rb/K intake is important in the toxicology of rubidium. A ratio above 40% is dangerous. In rats, a failure to gain weight is the first symptom, followed by ataxia and hyperirritability. Symptoms include: skin ulcers, poor hair coat, sensitivity, and extreme nervousness leading to convulsions and death.

A very dangerous fire and explosion hazard when exposed to heat or flame or by chemical reaction with oxidizers. Ignites on contact with air, oxygen, and halogens. Ignites spontaneously on contact with water. Reaction with water, moisture, or steam forms explosive hydrogen gas, which then ignites. Explodes in contact with liquid bromine. Can react explosively with air, halogens, mercury, nonmetals, vanadium chloride oxide, moisture, acids, oxidizers. Violent reaction with vanadium trichloride oxide (at 60°C),  $Cl_2O_2$ , P. Molten rubidium ignites in sulfur vapor and reacts vigorously with carbon. RbOH is more basic than KOH. Storage and handling: Keep under benzene, petroleum, or other liquids not containing gaseous  $O_2$ . When heated to decomposition it emits toxic fumes of  $Rb_2O$ . See also SODIUM and SODIUM POTASSIUM ALLOY.

**RPB100 CAS: 22754-97-8 HR: 3**  
**RUBIDIUM ACETYLIDE**

mf:  $C_2Rb_2$  mw: 194.96

**SAFETY PROFILE:** Explodes on contact with concentrated nitric acid, lead oxide. Ignites on contact with fluorine, chlorine, bromine, iodine, concentrated hydrochloric acid, arsenic, sulfur, selenium vapors. Ignites when warmed with carbon dioxide, nitrogen oxide, sulfur dioxide. Incandescent reaction when heated to 350°C with copper oxide; manganese dioxide. Vigorous exothermic reaction with iron(III) chloride, chromium(III) oxide, boron + heat, silicon + heat. When heated to decomposition it emits toxic fumes of  $Rb_2O$ . See also ACETYLIDES.

**RPB150 CAS: 22756-36-1 HR: 3**

**RUBIDIUM AZIDE**mf: N<sub>3</sub>Rb mw: 127.50**TOXICITY DATA with REFERENCE:**

orl-rat LD50:70 mg/kg NTIS\*\* OTS0571920

orl-mus LD50:59 mg/kg NTIS\*\* OTS0571920

**SAFETY PROFILE:** A poison by ingestion. May be unstable, especially when heated. When heated to decomposition it emits toxic vapors of NO<sub>x</sub>.

**RPB200 CAS: 584-09-8 HR: 2**  
**RUBIDIUM CARBONATE**
mf: CO<sub>3</sub>•2Rb mw: 230.95**PROP:** Powder. Mp: 837°.

**SYNS:** DIRUBIDIUM CARBONATE □ CARBONIC ACID, DIRUBIDIUM SALT □ DIRUBIDIUM MONOCARBONATE

**TOXICITY DATA with REFERENCE:**

orl-rat LD50:2625 mg/kg GTPZAB 31(9),55,87

ipr-rat LD50:450 mg/kg GTPZAB 31(9),55,87

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

**SAFETY PROFILE:** Moderately toxic by ingestion and intraperitoneal routes. When heated to decomposition it emits toxic fumes of Rb.

**RPF000 CAS: 7791-11-9 HR: 2**  
**RUBIDIUM CHLORIDE**

mf: ClRb mw: 120.92

**PROP:** White or colorless crystalline powder or cubic crystals. Mp: 718°, bp: 1390°, d: 2.76. Very sol in H<sub>2</sub>O; sol in MeOH; spar sol in EtOH.

**TOXICITY DATA with REFERENCE:**

sln-smc 50 mmol/L MUTAEX 1,21,86

orl-rat LD50:4440 mg/kg GISAAA 53(5),76,88

orl-mus LD50:3800 mg/kg 20PKA3 -,56,67

ipr-mus LD50:1625 mg/kg COREAF 256,1043,63

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

**SAFETY PROFILE:** Moderately toxic by ingestion and intraperitoneal routes. Experimental reproductive effects. Mutation data reported. Reacts violently with BrF<sub>3</sub>. When heated to decomposition it emits toxic fumes of Cl<sup>-</sup>, RbCl, and Rb<sub>2</sub>O. See also RUBIDIUM and CHLORIDES.

**RPK000 CAS: 13446-73-6 HR: 3**  
**RUBIDIUM DICHROMATE**
mf: Cr<sub>2</sub>O<sub>7</sub>•Rb<sub>2</sub> mw: 386.94

**PROP:** Crystals. D: 3.02–3.13. IDLH Ca [15 mg/m<sup>3</sup> {as Cr(VI)}].

**CONSENSUS REPORTS:** Chromium and its compounds are on the Community Right-To-Know List.

**OSHA PEL:** CL 0.1 mg(CrO<sub>3</sub>)/m<sup>3</sup>

**ACGIH TLV:** TWA 0.05 mg(Cr)/m<sup>3</sup>; Confirmed Human Carcinogen

**NIOSH REL:** (Chromium(VI)) TWA 0.001 mg(Cr)/m<sup>3</sup>

**SAFETY PROFILE:** A confirmed carcinogen. A poison. A powerful oxidizer. When heated to decomposition it emits toxic fumes of Rb<sub>2</sub>O. See also RUBIDIUM.

**ANALYTICAL METHOD:** For occupational chemical analysis use NIOSH: Chromium Hexavalent 7024.

**RPP000 CAS: 13446-74-7 HR: 3**
**RUBIDIUM FLUORIDE**

mf: FRb mw: 104.47

**PROP:** Hygroscopic, colorless, cubic crystals. Mp: 795°, bp: 1410°, d: 3.557, vap press: 1 mm @ 921°. Very sol in H<sub>2</sub>O; insol in EtOH and Et<sub>2</sub>O.

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

**OSHA PEL:** TWA 2.5 mg(F)/m<sup>3</sup>

**ACGIH TLV:** TWA 2.5 mg(F)/m<sup>3</sup>; BEL: 3 mg/g creatinine of fluorides in urine prior to shift; 10 mg/g creatinine of fluorides in urine at end of shift.

**NIOSH REL:** (Fluorides, Inorganic) TWA 2.5 mg(F)/m<sup>3</sup>

**SAFETY PROFILE:** Poison as a soluble fluoride. When heated to decomposition it emits toxic fumes of Rb<sub>2</sub>O and F<sup>-</sup>. See also RUBIDIUM and FLUORIDES.

**RPU000 CAS: 13446-75-8 HR: 3**
**RUBIDIUM HYDRIDE**

mf: HRb mw: 86.48

**PROP:** Colorless cubic crystals. Moisture sensitive. Reacts with H<sub>2</sub>O or RbOH + H<sub>2</sub>. Dissociates on heating with formation of constituent elements.

**SAFETY PROFILE:** Violent reaction with water. Ignites on contact with moist air or oxygen. Vigorous reaction with acetylene. When heated to decomposition it emits toxic fumes of Rb<sub>2</sub>O. See also RUBIDIUM HYDROXIDE, RUBIDIUM, and HYDRIDES.

**RPZ000 CAS: 1310-82-3 HR: 2**
**RUBIDIUM HYDROXIDE****DOT:** UN 2677/UN 2678

mf: HORb mw: 102.48

**PROP:** Grayish-white, deliquescent, monoclinic crystals or mass; strong base. Mp: 300°, d: 3.203 @ 11°. Very sol in H<sub>2</sub>O.

**SYNS:** RUBIDIUM HYDROXIDE (UN 2678) (DOT) □ RUBIDIUM HYDROXIDE SOLUTION (UN 2677) (DOT)

**TOXICITY DATA with REFERENCE:**

orl-rat LD50:586 mg/kg TXAPA9 32,239,75

orl-mus LD50:900 mg/kg 20PKA3 -,56,67

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

**DOT CLASSIFICATION:** 8; Label: Corrosive

**SAFETY PROFILE:** Moderately toxic by ingestion. A powerful, corrosive irritant to skin, eyes, and mucous membranes. When heated to decomposition it emits toxic fumes of Rb<sub>2</sub>O. See also POTASSIUM HYDROXIDE and RUBIDIUM.

**RQA000 CAS: 7790-29-6 HR: 1**
**RUBIDIUM IODIDE**

mf: IRb mw: 212.37

**PROP:** Colorless crystals. Mp: 642°, bp: 1300°, d: 3.55, d (liquid): 2.87 @ 825°, vap press: 1 mm @ 748°. Sol in alc; very sol in water.

**TOXICITY DATA with REFERENCE:**

orl-rat LD50:4708 mg/kg NIOSH\* TR-74,1,72

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

**SAFETY PROFILE:** Mildly toxic by ingestion. When heated to decomposition it emits toxic fumes of  $\text{Rb}_2\text{O}$  and  $\text{I}^-$ . See also IODIDES and RUBIDIUM.

**RQF000 CAS: 12136-85-5 HR: 3**  
**RUBIDIUM NITRIDE**

mf:  $\text{NRb}$  mw: 99.47

**SAFETY PROFILE:** Alkali nitrides burn in air. When heated to decomposition it emits very toxic fumes of  $\text{Rb}_2\text{O}$  and  $\text{NO}_x$ . See also RUBIDIUM and NITRIDES.

**RQF100 CAS: 12267-44-6 HR: 2**  
**RUBIDIUM SILVER IODIDE ( $\text{Ag}_4\text{RbI}_5$ ) (8CI)**

mf:  $\text{Ag}_4\text{I}_5\cdot\text{Rb}$  mw: 1151.45

SYNS: ARGENTATE(1-), TRI-MU-IODODIIODOTETRA-, RUBIDIUM □ RUBIDIUM PENTAIODOTETRAARGENTATE □ RUBIDIUM TETRASILVER PENTAIODIDE □ SILVER RUBIDIUM IODIDE ( $\text{Ag}_4\text{RbI}_5$ ) □ TETRASILVER RUBIDIUM PENTAIODIDE □ TRI-MU-IODODIIODOTETRAARGENTATE(1-) RUBIDIUM

**TOXICITY DATA with REFERENCE:**

orl-rat LD  $>10$  g/kg GTPZAB 34(4),58,1990

ipr-mus LD50:1 g/kg GTPZAB 34(4),58,1990

**SAFETY PROFILE:** Moderately toxic by intraperitoneal route. Low toxicity by ingestion. When heated to decomposition it emits toxic vapors of Ag, Rb, and  $\text{I}^-$ .

**RQF350 CAS: 11016-71-0 HR: 3**  
**RUBIFLAVIN**

SYNS: B 17476 □ NSC-105023

**TOXICITY DATA with REFERENCE:**

dnd-esc 10 mg/L MUREAV 89,95,81

pic-esc 1 ng/plate CNREA8 43,2819,83

ipr-mus LD50:15 mg/kg 85ERAY 2,1438,78

scu-mus LD50:14,310  $\mu\text{g/kg}$  NCISP\* JAN86

**SAFETY PROFILE:** Poison by subcutaneous and intraperitoneal routes. Mutation data reported.

**RQK000 CAS: 11016-72-1 HR: 3**  
**RUBOMYCIN**

**TOXICITY DATA with REFERENCE:**

pic-esc 60 mg/L ZAPOAK 8,139,68

cyt-hmn:lym 40  $\mu\text{g/L}$  CYGEDX 15(2),74,81

cyt-mus:oth 9 nmol/L IPPABX 20,1,84

ivn-rat LD50:18 mg/kg ANTBAL 28,298,83

orl-mus LD50:24,400  $\mu\text{g/kg}$  ANTBAL 11,126,66

ipr-mus LD50:5400  $\mu\text{g/kg}$  ANTBAL 20,897,75

scu-mus LD50:5400  $\mu\text{g/kg}$  ANTBAL 11,126,66

ivn-mus LD50:935  $\mu\text{g/kg}$  ANTBAL 11,126,66

ivn-rbt LDLo:100  $\mu\text{g/kg}$  ANTBAL 11,126,66

**SAFETY PROFILE:** Poison by ingestion, intraperitoneal, subcutaneous, and intravenous routes. Human mutation data reported.

**RQP000 CAS: 21794-01-4 HR: 3**  
**RUBRATOXIN B**

mf:  $\text{C}_{26}\text{H}_{30}\text{O}_{11}$  mw: 518.56

**PROP:** A solid. Mp: 168–170°. Is produced by isolates of *Penicillium rubrum* and *P. purpurogenum* (BECTA6 10,200,73).

**SYN:** 10-((3,6-DIHYDRO-6-OXO-2H-PYRAN-2-YL)HYDROXYMETHYL)-5,9,10,11-tert-TRAHYDRO-4-HYDROXY-5-(1-HYDROXYHEPTYL)-1H-CYCLONONA(1,2-C :5,6-C')DIFURAN-1,3,6,8(4H)-TETTRONE

**TOXICITY DATA with REFERENCE:**

dni-hmn:hla 32 mg/L JJEMAG 40,409,70

oms-hmn:hla 32 mg/L JJEMAG 40,409,70

orl-rat LD50:400 mg/kg TXAPA9 19,712,71

ipr-rat LD50:350  $\mu\text{g/kg}$  TXAPA9 19,712,71

ipr-mus LD50:270  $\mu\text{g/kg}$  TXAPA9 19,712,71

scu-mus LD50:6800 mg/kg 85GDA2 6,135,81

ipr-dog LDLo:500  $\mu\text{g/kg}$  JEPTDQ 1(1),59,77

ipr-cat LD50:200 mg/kg TXAPA9 19,712,71

ipr-gpg LD50:480 mg/kg TXAPA9 19,712,71

**CONSENSUS REPORTS:** EPA Genetic Toxicology Program.

**SAFETY PROFILE:** A deadly poison by ingestion and intraperitoneal routes. An experimental teratogen. Experimental reproductive effects. Human mutation data reported. When heated to decomposition it emits acrid smoke and irritating fumes.

**RQP050 CAS: 31924-91-1 HR: 3**  
**RUBRATOXIN B, DIHYDRO-**

mf:  $\text{C}_{26}\text{H}_{32}\text{O}_{11}$  mw: 520.58

**SYN:** DIHYDRORUBRATOXIN B

**TOXICITY DATA with REFERENCE:**

ipr-mus LD50:12 mg/kg BCPA6 19,612,70

unr-mus LD50:31 mg/kg TXAPA9 37,139,76

**SAFETY PROFILE:** A poison by intraperitoneal and possibly other routes. When heated to decomposition it emits acrid smoke and irritating vapors.

**RQP100 CAS: 25255-23-6 HR: 3**  
**RUBRATOXIN B, MONOSODIUM**

mf:  $\text{C}_{26}\text{H}_{29}\text{O}_{11}\cdot\text{Na}$  mw: 540.54

**TOXICITY DATA with REFERENCE:**

ipr-mus LD50:4200  $\mu\text{g/kg}$  BCPA6 19,612,70

**SAFETY PROFILE:** A poison by intraperitoneal route. When heated to decomposition it emits acrid smoke and irritating vapors.

**RQU300 HR: 2**  
**RUBUS ELLIPTICUS Smith, extract excluding roots**

**PROP:** Indian plant belonging to the family *Rosaceae* (IJEBA6 9,91,71).

**SYNS:** HINSALU □ ZARDANCHU

**TOXICITY DATA with REFERENCE:**

unr-rat LD50:1 g/kg IJCREE 21,183,83

ipr-mus LD50:500 mg/kg IJEBA6 9,91,71

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

**RQU650 HR: 2**  
**RUDBECKIA BICOLOR *nut.*, extract**

**PROP:** Indian plant belonging to the family *Compositae* (IJEBA6 18,594,80).

**TOXICITY DATA with REFERENCE:**

ipr-mus LD50:1 g/kg IJEBA6 18,594,80

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

**RQU750** **HR: D**  
**RUE OIL and HERB**

**PROP:** From steam distillation of fresh blossoming plants *Ruta graveolens* L., *Ruta montana* L., or *Ruta bracteosa* L. (Fam. *Rutaceae*). Yellow to amber liquid; fatty odor. Sol in fixed oils, mineral oil; insol in glycerin, propylene glycol.

**SAFETY PROFILE:** When heated to decomposition it emits acrid smoke and irritating fumes.

**RRA000** **CAS: 23537-16-8** **HR: 3**  
**RUGULOSIN**

mf:  $C_{30}H_{20}O_{10}$  mw: 540.50

**PROP:** Anthraquinoid hepatotoxin of *Penicillium rugulosum* Thom (JJEMAG 41,177,71).

**SYNS:** RADICALISIN □ (+)-RUGULOSIN

**TOXICITY DATA with REFERENCE:**

mmo-sat 10 µg/7H JEPTDQ 2(2),313,78

mrc-bcs 20 µg/disc CNREA8 36,445,76

ipr-rat LD50:44 mg/kg JJEMAG 41,177,71

ipr-mus LD50:55 mg/kg JJEMAG 41,177,71

**CONSENSUS REPORTS:** IARC Cancer Review: Group 3 IMEMDT 7,56,87; Animal Inadequate Evidence IMEMDT 40,99,86; Human No Adequate Data IMEMDT 40,99,86. EPA Genetic Toxicology Program.

**SAFETY PROFILE:** Poison by intraperitoneal route. Questionable carcinogen with experimental tumorigenic data. Mutation data reported. When heated to decomposition it emits acrid smoke and irritating fumes.

**RRK000** **HR: 2**  
**RUSSIAN COMFREY LEAVES**

**PROP:** Fresh leaves were dried, milled, and mixed with rat diet (JNCIAM 61,865,78).

**SYNS:** COMFREY, RUSSIAN □ SYMPHYTUM OFFICINALE L

**TOXICITY DATA with REFERENCE:**

orl-rat TDLo:4800 g/kg/86W-C:CAR JJIND8 61(3),865,78

orl-rat TD:9900 g/kg/86W-C:CAR JJIND8 61(3),865,78

**CONSENSUS REPORTS:** IARC Cancer Review: Animal Limited Evidence IMEMDT 31,239,83.

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

**RRP000** **HR: 2**  
**RUSSIAN COMFREY ROOTS**

**PROP:** Fresh roots dried, milled, and mixed with diet (JNCIAM 61,865,78).

**SYNS:** COMFREY, RUSSIAN □ SYMPHYTUM OFFICINALE L

**CONSENSUS REPORTS:** IARC Cancer Review: Animal Limited Evidence IMEMDT 31,239,83.

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

**RRP100** **CAS: 17948-33-3** **HR: D**  
**(-)-RUTACRIDONE**

mf:  $C_{19}H_{17}NO_3$  mw: 307.37

**SYNS:** FURO(2,3-C)ACRIDIN-6(2H)-ONE, 1,11-DIHYDRO-5-HYDROXY-11-METHYL-2-(1-METHYLETHENYL)-, (-)- □ RUTACRIDONE □ RUTACRIDON

**TOXICITY DATA with REFERENCE:**

mic-sat 5 µLg/plate MUTAEX 4,45,1989

**SAFETY PROFILE:** Mutation data reported. When heated to decomposition it emits toxic vapors of  $NO_x$ .

**RRP675** **HR: D**  
**RUTA GRAVEOLENS, extract**

**PROP:** Herb used for medicinal purposes.

**TOXICITY DATA with REFERENCE:**

mmo-sat 10 µL/plate MUTAEX 2,271,87

mma-sat 20 µL/plate MUTAEX 2,271,87

orl-rat TDLo:8 g/kg (female 1-10D post):REP PLMEAA 55,176,89

**SAFETY PROFILE:** Experimental reproductive effects. Mutation data reported.

**RRU000** **CAS: 7440-18-8** **HR: 3**  
**RUTHENIUM**

af: Ru aw: 101.07

**PROP:** Lustrous, hard, silvery metal; hexagonal crystals. Highly resistant to corrosive agents at mod temps; unaffected by air,  $H_2O$ , acids, but dissolved by molten alkalis. Unaffected by aqua regia,  $H_2SO_4$ , HCl, HF, or  $H_3PO_4$ . D: 12.45 @ 20°/4°, mp: approx 2310°, bp: approx 4150°. Stable in air.

**SAFETY PROFILE:** Most ruthenium compounds are poisons. Ruthenium is retained in the bones for a long time. Flammable in the form of dust when exposed to heat or flame. Violent reaction with ruthenium oxide. Explosive reaction with aqua regia + potassium chlorate. When heated to decomposition it emits very toxic fumes of  $RuO_x$  and Ru, which are highly injurious to the eyes and lung and can produce nasal ulcerations. See also RUTHENIUM COMPOUNDS.

**RRZ000** **CAS: 10049-08-8** **HR: 3**  
**RUTHENIUM CHLORIDE**

mf:  $Cl_3Ru$  mw: 207.42

**PROP:** α Form: Black lustrous crystals. Insol in alc, water. β Form: Dark-brown, fluffy, hexagonal crystals. Sol in alc.

**SYN:** RUTHENIUM TRICHLORIDE

**TOXICITY DATA with REFERENCE:**

ipr-rat LD50:360 mg/kg EQSSDX 1,1,75

**CONSENSUS REPORTS:** EPA Genetic Toxicology Program. Reported in EPA TSCA Inventory.

**SAFETY PROFILE:** Poison by intraperitoneal route. Incompatible with iron pentacarbonyl and zinc. When heated to decomposition it emits toxic fumes of  $RuO_x$  and  $Cl^-$ . See also RUTHENIUM COMPOUNDS.

**RSA000** **CAS: 16845-29-7** **HR: 3**  
**RUTHENIUM CHLORIDE HYDROXIDE**

mf:  $Cl_3HORu$  mw: 224.43

**SYNS:** RUTHENIUMHYDROXIDE TRICHLORIDE □  
RUTHENIUM HYDROXYCHLORIDE □ RUTHENIUM  
TRICHLORIDE HYDROXIDE

**TOXICITY DATA with REFERENCE:**

orl-rat LD50:1250 mg/kg GTPZAB 23(6),54,79  
ihl-rat LCLo:9500 µg/m<sup>3</sup> 41HTAH -,36,78  
orl-mus LD50:463 mg/kg GTPZAB 23(6),54,79  
ipr-mus LD50:225 mg/kg GTPZAB 23(6),54,79  
orl-gpg LD50:210 mg/kg GTPZAB 23(6),54,79

**SAFETY PROFILE:** Poison by ingestion, inhalation,  
and intraperitoneal routes. When heated to decomposition  
it emits toxic fumes of RuO<sub>x</sub> and Cl<sup>-</sup>.

**RSF000**

**HR: 3**

**RUTHENIUM COMPOUNDS**

**SAFETY PROFILE:** Most ruthenium compounds are  
poisons or moderately toxic. Ruthenium red is an  
antagonist of Ca<sup>2+</sup>, inhibits Ca<sup>2+</sup> transport and binding in  
mitochondrial membranes, and inhibits Ca<sup>2+</sup>-ATPase  
activity. They resemble osmium compounds in that when  
heated in air, they evolve fumes that are injurious to the  
eyes and lungs and can produce nasal ulcerations. When  
heated to decomposition they emit toxic fumes of RuO<sub>x</sub>  
and Ru. See also RUTHENIUM and specific compounds.

**RSF875**

**CAS: 12036-10-1**

**HR: 3**

**RUTHENIUM OXIDE**

mf: O<sub>2</sub>Ru mw: 133.07

**PROP:** Blue-black tetragonal crystals; grown by chemical  
vapor transport in O<sub>2</sub>. Crystals show metallic conductivity  
and Pauli paramagnetism.

**TOXICITY DATA with REFERENCE:**

orl-rat LD50:4580 mg/kg GTPZAB 25(1),46,81  
ihl-rat LCLo:34 mg/m<sup>3</sup> 41HTAH -,36,78  
orl-mus LD50:5570 mg/kg GTPZAB 25(1),46,81  
ipr-mus LD50:3050 mg/kg GTPZAB 25(1),46,81

**CONSENSUS REPORTS:** EPA Genetic Toxicology  
Program.

**SAFETY PROFILE:** Poison by inhalation. Moderately  
toxic by intraperitoneal route. Mildly toxic by ingestion.  
When heated to decomposition it emits toxic fumes of  
RuO<sub>x</sub>. See also RUTHENIUM and RUTHENIUM  
COMPOUNDS.

**RSK000**

**CAS: 20427-56-9**

**HR: 3**

**RUTHENIUM(VIII) OXIDE**

mf: O<sub>4</sub>Ru mw: 165.07

**PROP:** Golden-yellow, monoclinic prisms; isostructural  
with OsO<sub>4</sub>. D: 3.29 @ 20°, mp: 25.4°, bp: 40°. Very  
volatile, subl at room temp. Sltly sol in water; very sol in  
carbon tetrachloride, chlorinated solvents; sol in bromine,  
liquid SO<sub>2</sub>.

**SYN:** RUTHENIUM TETRAOXIDE

**SAFETY PROFILE:** A poison. Fumes are highly  
injurious to the eyes and mucous membranes. Handle in  
hood only. Flammable by chemical reaction with reducing  
agents. A powerful oxidizing agent. The liquid explodes  
above 106°C. Explosive reaction with hydriodic acid,  
charcoal, ethanol, cellulose fibers, other organic materials,  
sulfur. Violent reaction or ignition with ammonia.  
Vigorous reaction with phosphorus tribromide. When

heated to decomposition it emits toxic fumes of RuO<sub>x</sub>.  
See also RUTHENIUM COMPOUNDS.

**RSK100**

**CAS: 11103-72-3**

**HR: 3**

**RUTHENIUM RED**

**TOXICITY DATA with REFERENCE:**

ice-rat TDLo:150 ng/kg EJPHAZ 428,349,2001

**SAFETY PROFILE:** A poison by intracerebral route.  
When heated to decomposition it emits acrid smoke and  
irritating vapors.

**RSP000**

**HR: 2**

**RUTHENIUM SALT of**

**TETRAMETHYLPHENANTHRENE**

**TOXICITY DATA with REFERENCE:**

scu-mus TDLo:1000 mg/kg/I:ETA BECCAN 40,30,62

**SAFETY PROFILE:** Questionable carcinogen with  
experimental tumorigenic data. When heated to  
decomposition it emits very toxic fumes of NO<sub>x</sub> and  
RuO<sub>x</sub>. See also RUTHENIUM COMPOUNDS.

**RSP100**

**CAS: 1317-80-2**

**HR: 2**

**RUTILE**

mf: O<sub>2</sub>Ti mw: 79.90

**SYNS:** AUSTIOX R-CR □ JR 600A □ R 830 □ R830 (MINERAL) □  
β-RUTILE □ SAGENITE □ TR-700 □ UNITANE OR

**CONSENSUS REPORTS:** IARC Cancer Review:  
Group 3 IMEMDT 47,307,89; Animal Limited Evidence  
IMEMDT 47,307,89; Human Inadequate Evidence  
IMEMDT 47,307,89. Reported in EPA TSCA Inventory.  
**SAFETY PROFILE:** Questionable carcinogen. When  
heated to decomposition it emits toxic vapors of Ti.

**RSU000**

**CAS: 153-18-4**

**HR: 3**

**RUTIN**

mf: C<sub>27</sub>H<sub>30</sub>O<sub>16</sub> mw: 610.57

**PROP:** Pale yellow needles. Mp: 214–215° (decomp)  
(anhyd). Sol in pyridine, formamide, and alkaline solns;  
slty sol in alc, acetone, ethyl acetate; insol in chloroform,  
carbon bisulfide, ether, benzene.

**SYNS:** BIOFLAVONOID □ BIRUTAN □ C.I. 75730 □ ELDRIN □  
GLOBULARIACITRIN □ ILIXATHIN □ MELIN □ MYRI-  
TICALORIN □ MYRITICOALORIN □ OSYRITRIN □ OXYRITIN  
□ PALIUROSIDE □ 3,3',4',5,7-PENTAHYDROXYFLAVONE-3-(o-  
RHAMNOSYLGLUCOSIDE) □ 3,3',4',5,7-PENTAHYDROXY-  
FLAVONE-3-RUTINOSIDE □ PHYTOMELIN □ QUERCETIN-3-  
(6-o-(6-DEOXY-α-L-MANNOPYRANOSYL)-β-D-GLUCOPYRANO-  
SIDE) □ QUERCETIN RHAMNOGLUCOSIDE □ QUERCETIN-3-  
RHAMNOGLUCOSINE □ QUERCETIN-3-(6-o-α-L-RHAMNO-  
PYRANOSYL-β-D-GLUCOPYRANOSIDE) □ QUERCETIN-3-  
RUTINOSIDE □ RUTINIC ACID □ RUTOSIDE □ SOPHORIN □  
TANRUTIN □ USAF CF-5 □ VIOLAQUERCITRIN □ VITAMIN P

**TOXICITY DATA with REFERENCE:**

mma-sat 2 mg/plate MUREAV 66,223,79  
mma-sat 80 µg/plate FCTOD7 23,669,85  
dnr-esc 100 mg/L FCTXAV 18,223,83  
slt-dmg-unr 71,300 ppm/48H MUREAV 120,233,83  
orl-rat TDLo:973 g/kg/3Y-C:NEO PAACA3 25,95,84  
ipr-rat LD50:2000 mg/kg EKMA8 19,207,80  
ipr-mus LD50:200 mg/kg NTIS\*\* AD277-689  
ivn-mus LD50:950 mg/kg JAPMA8 39,556,50

ipr-gpg LD50:2000 mg/kg EKMM8 19,207,80

**CONSENSUS REPORTS:** Reported in EPA TSCA Inventory.**SAFETY PROFILE:** Poison by intraperitoneal route. Moderately toxic by intravenous route. Questionable carcinogen with experimental neoplastigenic data. Mutation data reported. Used as a pharmaceutical and veterinary drug. When heated to decomposition it emits acrid smoke and irritating fumes.**RSU450 CAS: 20228-27-7 HR: 3  
RUVAZONE**mf: C<sub>12</sub>H<sub>14</sub>N<sub>2</sub>O<sub>4</sub> mw: 250.28**PROP:** A solid. Mp: 184–186°.**SYNS:** o-ETHOXYBENZOIC ACID (1-CARBOXYETHYLID-ENE)HYDRAZIDE □ o-ETHOXY-BENZOIL-IDRAZONE DELL'ACIDO PIRUVICO (ITALIAN) □ o-ETHOXY-BENZOYL-HYDRAZONE of PYRUVIC ACID □ M 6/42**TOXICITY DATA with REFERENCE:**

orl-rat LD50:507 mg/kg BCFAAI 107,769,68  
 ipr-rat LD50:157 mg/kg BCFAAI 107,769,68  
 scu-rat LD50:600 mg/kg BCFAAI 107,769,68  
 ims-rat LD50:206 mg/kg BCFAAI 107,769,68  
 orl-mus LD50:324 mg/kg BCFAAI 107,769,68  
 ipr-mus LD50:166 mg/kg BCFAAI 107,769,68  
 scu-mus LD50:207 mg/kg BCFAAI 107,769,68  
 ims-mus LD50:185 mg/kg BCFAAI 107,769,68

**SAFETY PROFILE:** Poison by ingestion, subcutaneous, intramuscular, and intraperitoneal routes. When heated to decomposition it emits toxic fumes of NO<sub>x</sub>.**RSZ000 CAS: 15662-33-6 HR: 3  
RYANIA**mf: C<sub>25</sub>H<sub>35</sub>NO<sub>9</sub> mw: 493.61**PROP:** Tan solid. Mp: 219–220°. The powdered stem of *Ryania speciosa*, of proven insecticidal activity (JPETAB 93,407,48).**SYNS:** BONIDE RYATOX □ GROUND RYANIA SPECISA-(VAHL) STEMWOOD (ALKOLOID RYANODINE) □ RYANEXEL □ RYANIA POWDER □ RYANIA SPECIOSA □ RYANICIDE □ RYANODINE**TOXICITY DATA with REFERENCE:**

orl-hmn LDLo:143 mg/kg:CNS,GIT,PUL 34ZIAG - ,522,69  
 orl-rat LD50:750 mg/kg WRPCA2 9,119,70  
 skn-rat LD50:750 mg/kg SPEADM 78-1,6,78  
 orl-mus LD50:650 mg/kg JPETAB 93,407,48  
 orl-dog LD50:150 mg/kg JPETAB 93,407,48  
 orl-rbt LD50:650 mg/kg GUCHAZ 6,450,73  
 orl-gpg LD50:2500 mg/kg JPETAB 93,407,48  
 orl-pgn LD50:2310 µg/kg ASTTA8 (680),157,79  
 orl-qal LD50:13,300 µg/kg ASTTA8 (680),157,79  
 orl-bwd LD50:1780 µg/kg ASTTA8 (680),157,79

**SAFETY PROFILE:** Human poison by ingestion. Experimental poison by ingestion. Moderately toxic experimentally by skin contact. Human systemic effects by ingestion: weakness, respiratory changes, diarrhea, gastrointestinal disturbances, tremors, convulsions, coma, and death. Used as an insecticide. Flammable when exposed to heat or flame. To fight fire, use CO<sub>2</sub>, mist,spray, foam. When heated to decomposition it emits toxic fumes of NO<sub>x</sub>.**RSZ375 CAS: 71653-63-9 HR: 3  
RYODIPINE**mf: C<sub>18</sub>H<sub>19</sub>F<sub>2</sub>NO<sub>5</sub> mw: 367.38**PROP:** Crystals from MeOH. Mp: 156–158°.**SYNS:** 1,4-DIHYDRO-4-(2-(DIFLUOROMETHOXY)PHENYL)-2,6-DIMETHYL-3,5-PYRIDINEDICARBOXYLIC ACID DIMETHYL ESTER □ 2,6-DIMETHYL-3,5-DIMETHOXYCARBONYL-4-(o-DIFLUOROMETHOXYPHENYL)-1,4-DIHYDROPYRIDINE □ PP-1466**TOXICITY DATA with REFERENCE:**

orl-rat LD50:11 g/kg ARZNAD 35,672,85  
 orl-mus LD50:721 mg/kg ARZNAD 35,672,85  
 ipr-mus LD50:395 mg/kg PCJOAU 16,817,82  
 orl-dog LD50:1198 mg/kg ARZNAD 35,915,85  
 orl-rbt LD50:209 mg/kg ARZNAD 35,915,85

**SAFETY PROFILE:** Poison by ingestion and intraperitoneal routes. When heated to decomposition it emits toxic fumes of F<sup>-</sup> and NO<sub>x</sub>.**RSZ600 CAS: 22059-60-5 HR: 3  
RYTHMODAN**mf: C<sub>21</sub>H<sub>29</sub>N<sub>3</sub>O•H<sub>3</sub>O<sub>4</sub>P mw: 437.53**PROP:** An antiarrhythmic. Odorless solid cream colored powder. Mp: 94–95°. Water sol: 100 g/100 @ 20°.**SYNS:** α-((2-BIS(1-METHYLETHYL)AMINO)ETHYL)-α-PHENYL-2-PYRIDINEACETAMIDE PHOSPHATE (9CI) □ α-(2-DIISOPROPYLAMINOETHYL)-α-PHENYL-2-PYRIDINE-ACETAMIDE PHOSPHATE □ DIISOPYRAMIDE PHOSPHATE □ NORPACE □ SC 13957 □ SC 7031 PHOSPHATE**TOXICITY DATA with REFERENCE:**

ipr-rat TDLo:1820 mg/kg (male 10W pre):TER JZKEDZ 7,145,81  
 orl-wmn LDLo:60 mg/kg/10D-I:SYS NYSJAM 83,1057,83  
 orl-man TDLo:43 mg/kg/5D-I:SYS NYSJAM 83,1057,83  
 orl-wmn TDLo:8 mg/kg/1D-I:LIV,BLD SMJOAV 75,496,82  
 orl-man TDLo:1429 µg/kg:SYS NNGAAS 72,1177,83  
 orl-chd LDLo:30 mg/kg MJAUJ 2,335,78  
 orl-man TDLo:45 mg/kg/1W-I SMJOAV 76,1453,83  
 orl-wmn TDLo:20 mg/kg/3D-I:CVS,BLD AHJOA2 105,870,83  
 orl-rat LD50:880 mg/kg YACHDS 9(Suppl 1),5,81  
 ipr-rat LD50:255 mg/kg YACHDS 9(Suppl 1),5,81  
 scu-rat LD50:1000 mg/kg YACHDS 9(Suppl 1),5,81  
 ivn-rat LD50:88 mg/kg YACHDS 9(Suppl 1),5,81  
 orl-mus LD50:820 mg/kg YACHDS 9(Suppl 1),5,81  
 ipr-mus LD50:190 mg/kg YACHDS 9(Suppl 1),5,81  
 scu-mus LD50:680 mg/kg YACHDS 9(Suppl 1),5,81  
 ivn-mus LD50:81 mg/kg YACHDS 9(Suppl 1),5,81

**SAFETY PROFILE:** Human poison by ingestion. Experimental poison by intravenous and intraperitoneal routes. Moderately toxic experimentally by ingestion and subcutaneous routes. Human systemic effects: arrhythmias, blood clotting factor change, hypoglycemia, liver function tests impaired, pulse rate increase, thrombocytopenia. An experimental teratogen. Experimental reproductive effects. When heated to decomposition it emits toxic fumes of NO<sub>x</sub> and PO<sub>x</sub>.

**RSZ675**

**HR: D**

**RYUTAN (JAPANESE)**

**PROP:** Crude drug extract from *Gentiana Scabra*  
(MUREAV 97,81,82).

**SYN:** GENTIANAE SCABRAE RADIX (LATIN)

**TOXICITY DATA with REFERENCE:**

mno-sat 10 mg/plate MUREAV 97,81,82

dnr-bcs 100 g/L MUREAV 97,81,82

**SAFETY PROFILE:** Mutation data reported.