Material Safety Data Sheet

Rapamycin: *sc-3504*

CHEMICAL IDENTIFICATION

Description: Rapamycin is a macrocyclic triene antibiotic possessing potent immunosuppressant activity. It binds FKBP12 that binds to FRAP2 (FKBP12 rapamycin-associated protein), and RAFT13 (rapamycin and FKBP12 target), thus inhibiting IL-2 and other growth-promoting lymphokines. Rapamycin induces inhibition of p70s6k, p33cdk2 and p34cdc2.

References:

1. Sehgal, S.N. and Bansback, C.C. 1993. Rapamycin: *in vitro* profile of a new immunosuppressive macrolide.Ann. N.Y. Acad. Sci. 685. 58-67.

2. Sabatini, D.M., et al. 1994. RAFT1: a mammalian protein that binds to FKBP12 in a rapamycin-dependent fashion and is homologous to yeast TORs. Cell. 78. 35-43.

3. Price, D.J., et al. 1992. Rapamycin-induced inhibition of the 70-kilodalton S6 protein kinase. Science. 257. 973-977.

4. Morice, W.G., et al. 1993. Rapamycin inhibition of interleukin-2-dependent p33cdk2 and p34cdc2 kinase activation in T lymphocytes. J. Biol. Chem. 268. 22737-22745 .

COMPOSITION/INFORMATION ON INGREDIENTS

CAS #: 53123-88-9

Molecular formula: $C_{51}H_{79}NO_{13}$

Molecular weight: 914.2

Solubility: Soluble in DMSO (25 mg/ml)

Storage: Store below -20°C

Purity: >95%

HAZARDS IDENTIFICATION

Label precautionary statements: Caution: avoid contact and inhalation. Target organ(s):Immune system

FIRST-AID MEASURES

If swallowed, wash out mouth with water provided person is conscious. Call a physician. If inhaled, remove to fresh air. If breathing becomes difficult, call a physician. In case of contact, immediately wash skin with soap and water. In case of contact with eyes, flush with water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

ACCIDENTAL RELEASE MEASURES

Wear self-contained breathing apparatus, rubber boots and heavy rubber gloves. Sweep up, place in a bag and hold for waste disposal. Avoid raising dust.ventilate area and wash spill site after material pickup is complete.

FIRE FIGHTING MEASURES

Extinguish media: Water spray, carbon dioxide, dry chemical powder or appropriate foam.

Special firefighting procedures: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Unusual fire and explosions hazards: Emits toxic fumes under fire conditions.

HANDLING AND STORAGE

Refer to EXPOSURE CONTROLS/ PERSONAL PROTECTION section.

EXPOSURE CONTROLS/PERSONAL PROTECTION

Safety shower and eye bath. Mechanical exhaust required. Avoid inhalation. Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure. NOISH/MSHA-approved respirator. Compatible chemical-resistant gloves. Chemical safety goggles. Keep tightly closed. Store in a cool dry place.Wash thoroughly after handling.

PHYSICAL AND CHEMICAL PROPERTIES

Form: Off-white or yellow solid

STABILITY AND REACTIVITY

Stability: Stable.

Incompatibilities: Strong oxidizing agents

Hazardous combustion or decomposition products: Carbon monoxide, carbon dioxide, nitrogen oxides.

Hazardous polymerization will not occur.

ECOLOGICAL INFORMATION

Data not yet available.

DISPOSAL CONSIDERATIONS

Disolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state and local environmental regulations.

TRANSPORT INFORMATION

Contact Santa Cruz Biotechnology for transportation information.

REGULATORY INFORMATION

European information: Caution: Substance not yet fully tested.

TOXICOLOGICAL INFORMATION

Acute effects. May cause skin irritation. May cause eye irritation. Material may be irritating to mucous membranes and upper respiratory tract. May be harmful by inhalation, ingestion, or skin absorption. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Chronic effects: Target organ(s):Immune system

RTECS #: VE6250000RAPAMYCIN

Toxicity data:
IPR-RAT LD50:18220 UG/KG; NTIS** PB83-228577
ORL-MUS LD50:>2500 MG/KG; JANTAJ 28,721,1975
IPR-MUS LD50:597 MG/KG; JANTAJ 31,539,1978

Only selected registry of toxic effects of chemical substances (RTECS) data is presented here. See actual entry in RTECS for complete information. http://www.cdc.gov/niosh/rtecs.html

OTHER INFORMATION

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Santa Cruz Biotechnology shall not be held liable for any damage resulting from handling or from contact with the product.