Summary of Risk Assessment Conducted Pursuant to subsection 83(1) of the *Canadian Environmental Protection Act, 1999*

New Substances Notification No. 17928: 1,5-Disubstitutedpentane, 2-methyl-, polymer with 1,4-cyclohexamedimethanol, 1,3-benzenedicarboxylic acid, zinc oxide modified

Regulatory Decisions

Under the provisions for Substances and Activities New to Canada in Part 5 of the *Canadian Environmental Protection Act, 1999* (CEPA), and pursuant to section 83 of that Act, the Minister of the Environment and the Minister of Health have assessed information in respect of the substance, and have determined that it is not anticipated to enter the environment in a quantity or concentration or under conditions that have or may have an immediate or long term harmful effect on the environment or its biological diversity, constitute or may constitute a danger to the environment on which life depends, or constitute or may constitute a danger in Canada to human life or health.

Substance Identity

1,5-Disubstitutedpentane, 2-methyl-, polymer with 1,4-cyclohexamedimethanol, 1,3-benzenedicarboxylic acid, zinc oxide modified (Confidential Accession No. 14843-2) is a polymer that can be classified as a poly(arylamide-arylester). The substance does not meet the Reduced Regulatory Requirements criteria according to the New Substances Notification Regulations because it contains zinc above 0.2% by weight and a high percent of low molecular weight components.

Notified and Potential Activities

The substance is proposed to be manufactured in and/or imported into Canada in quantities greater than 10 000 kg/yr for use in industrial applications. Potential uses may include ink formulation.

Environmental Fate and Behaviour

Based on its physical and chemical properties, if released to the environment, the substance will tend to partition to soil and settle to sediment. The substance is expected to be persistent in soil and sediment because it is not anticipated to degrade under environmental conditions. The substance is not expected to be bioaccumulative based on low water extractability and a bioconcentration factor of <5000 L/kg.

Ecological Assessment

Given the low water extractability of the substance, ecotoxicity data were not required and a predicted no-effect concentration was not calculated.

No anticipated significant releases are expected from the notified use of the substance, and given the low water extractability of the substance, calculation of a predicted environmental concentration was deemed unnecessary. No potential activities were assessed.

Based on no anticipated releases to the environment in conjunction with the low water extractability of the substance, the substance is unlikely to cause ecological harm in Canada.

Human Health Assessment

Based on the available hazard information on the substance, the substance has a low potential for acute toxicity by the oral route of exposure (median lethal dose (LD_{50}) >2000 mg/kg body weight). Data for a different polymer product, containing >90% of the notified substance, indicate a low potential for acute oral toxicity (LD_{50} >2000 mg/kg body weight), low potential for acute dermal toxicity (LD_{50} >2000 mg/kg body weight), and moderate potential for acute inhalation toxicity (median lethal concentration 1-5 mg/L/4 hours).

When the notified substance is used in industrial applications, direct exposure of the general population is not anticipated. Indirect exposure of the general population from environmental media such as drinking water is expected to be negligible. If used in ink formulations, direct exposure of the general population is expected to be by contact with the skin at low levels and indirect exposure is expected to remain negligible.

Based on the low likelihood of exposure, the substance is not likely to pose a significant health risk to the general population, and is therefore unlikely to be harmful to human health.

Assessment Conclusion

When used as notified and other identified potential uses, the substance is not suspected to be harmful to human health or the environment according to the criteria under section 64 of CEPA.

A conclusion under CEPA, on this substance, is not relevant to nor does it preclude an assessment against the hazard criteria for Workplace Hazardous Materials Information System that are specified in the *Controlled Products Regulations* or the *Hazardous Products Regulations* for products intended for workplace use.