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

New Substances Notification 20996: 2-Furancarboxylic acid (Chemical Abstracts Service Registry Number 88-14-2)

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 the Act, the Minister of the Environment and the Minister of Health have assessed information in respect of the substance, and have determined based on the available information, that when used as notified, the substance 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.

The significant new activity (SNAc) provisions of CEPA were applied to the substance because of potential human health impacts that could arise as a result of potential new activities. Order 2022-87-05-01 Amending the Domestic Substances List outlines information requirements for those activities and was published in the *Canada Gazette* Part II, Vol. 156, No. 16 on August 3, 2022. Notification is required prior to commencement of those activities identified as a potential concern to ensure the substance undergoes further assessment and risk management consideration.

Substance identity

The notified chemical is 2-furancarboxylic acid (Chemical Abstracts Service Registry Number[1] 88-14-2).

Notified and potential uses

The substance is proposed to be imported into Canada in quantities greater than 10 000 kg/yr for the notified use in industrial and commercial surface care applications. Potential uses may include consumer cleaning products, cosmetics, and use in foods.

Environmental fate and behaviour

Based on its physical and chemical properties, if the substance is released to the environment, it will tend to partition to water. The substance is not expected to be persistent in this

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compartment based on ready biodegradation (> 85% over 28 days). The substance is not expected to bioaccumulate based on its low octanol-water partition coefficient (log K_{OW} 0-3).

Environmental risk assessment

Based on the available hazard information, the substance has low acute toxicity to aquatic invertebrates (median effective concentration > 100 mg/L), and is expected to have moderate acute toxicity to fish (median lethal concentration [LC_{50}] 10-100 mg/L) and low chronic toxicity to algae (no-observed-effect-concentration > 10 mg/L). Using the LC_{50} from the most sensitive organism (fish) and by applying an assessment factor of 250 to account for acute to chronic extrapolation, species sensitivity variation, and mode of action, the predicted no-effect concentration (PNEC) was calculated to be in the range of 100-1000 µg/L, which was used to estimate the risk to the environment.

The notified and potential activities in Canada were assessed to estimate the environmental exposure potential of the substance throughout its life cycle. Environmental exposure from the notified activity is expected to be mainly from industrial formulation by release of the substance to water resulting in a predicted environmental concentration (PEC) in the range of 1-10 µg/L. For potential activities such as consumer use, environmental exposure is expected to be mainly by release of the substance to water resulting in a PEC in the range of 0.1-1 µg/L.

Comparing the PECs with the PNEC, the ratios are less than 1. This, along with other lines of evidence including environmental fate, hazard, and exposure, indicates that the substance is unlikely to cause harm to the environment in Canada.

Human health risk assessment

Based on the available hazard information, the substance is expected to have a low acute toxicity by the dermal route (median lethal dose > 2000 mg/kg body weight, with no mortality at the highest dose tested). The substance has the potential for reproductive and systemic toxicity. It is not mutagenic *in vitro*. Therefore, the substance is unlikely to cause genetic damage.

When the notified substance is used in surface care applications for commercial or industrial use, direct exposure of the general population is not expected due to the industrial and commercial nature of the use. Indirect exposure of the general population from environmental media is not expected given the specialized industrial and commercial use of the substance which would limit public exposure.

However, if the substance is used in consumer cleaning products or cosmetics, direct exposure of the general population is expected to be mainly by frequent contact with the skin. Indirect exposure of the general population from environmental media such as drinking water is expected to be at low levels given the low potential for release to the environment resulting from potential uses.

Based on the low potential for exposure when used as notified, 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. However, based on the potential for increased dermal exposure combined with indications that the substance may have reproductive and systemic toxicity, the potential use of the substance in consumer products or cosmetics could significantly alter the exposure and conditions of use resulting in the substance becoming harmful to human health. Consequently, more information is necessary to better characterize potential health risks associated with these activities.

The assumptions made in the assessment and the risk management measures applied are considered to be adequately protective for the general population as well as for subpopulations who may be more susceptible or highly exposed.

Assessment conclusion

When the substance is used as notified, it is not suspected to be harmful to human health or the environment according to the criteria under section 64 of the Act. However, it is suspected that a significant new activity in relation to the substance could result in the substance meeting those criteria.

Due to the potential risk to human health related to suspected toxicity if the substance were to be used in consumer products or cosmetics, the SNAc provisions under CEPA were applied to the substance in order to obtain information to ensure that the substance undergoes further assessment before these potential activities are undertaken. Order 2022-87-05-01 was published in the *Canada Gazette* Part II, Vol. 156, No. 16 on August 3, 2022.

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 the workplace.