



Government
of Canada

Gouvernement
du Canada

RISK MANAGEMENT SCOPE

for

Oxirane, 2,2',2'',2'''-[1,2-ethanediylidenetetrakis(4,1-phenyleneoxymethylene)]tetrakis-

TGOPE

Chemical Abstract Service Registry Number (CAS RN):
7328-97-4

Environment Canada
Health Canada

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Canada

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SUMMARY OF PROPOSED RISK MANAGEMENT

1. The Government of Canada will propose notification regarding any potential changes in the use pattern of TGOPE.

Note: This summary is an abridged list of the instruments and tools proposed to manage risks associated with this substance. Please see section 3 of this document for a complete explanation of risk management.

1. ISSUE

1.1 Draft Screening Assessment Report Conclusion

The substance Oxirane, 2,2',2",2'''-[1,2-ethanediylidenetetrakis(4,1-phenyleneoxymethylene)]tetrakis-, Chemical Abstract Service Registry Number (CAS RN)¹ 7328-97-4, referred to throughout this document as “TGOPE”, is included in Batch 9 of the Challenge under the Chemicals Management Plan. The *Canadian Environmental Protection Act, 1999* (CEPA 1999) (Canada 1999) requires the Minister of the Environment and the Minister of Health (the Ministers) to categorize substances on the *Domestic Substances List* (DSL). Further to this activity, the Act requires the Ministers to conduct screening assessments of substances that meet the categorization criteria to determine whether these substances meet the one or more of the criteria in section 64 of the Act.²

A notice summarizing the scientific considerations of the draft screening assessment report was published for TGOPE by Environment Canada and Health Canada in the *Canada Gazette*, Part I, on March 20, 2010, under subsection 77(1) of CEPA 1999. On the basis of the carcinogenic potential of TGOPE, for which there may be a probability of harm at any exposure level, the draft screening assessment report proposes that TGOPE is entering or may be entering the environment in a quantity or a concentration or under conditions that constitute or may constitute a danger in Canada to human life or health. Based on the information available, it is proposed that TGOPE meets the criteria set out in section 64c of the *Canadian Environmental Protection Act, 1999*.

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² A determination of whether one or more of the criteria of section 64 are met and whether risk management may be required is based upon an assessment of potential risks to the environment and/or to human health associated with exposures in the general environment. For humans, this includes, but is not limited to, exposures from ambient and indoor air, drinking water, foodstuffs and the use of consumer products. A conclusion under CEPA 1999 on the substances in the Chemicals Management Plan (CMP) Challenge Batches 1-12 is not relevant to nor does it preclude an assessment against the hazard criteria specified in the Workplace Hazardous Materials Information System [WHMIS] Controlled Products Regulations for products intended for workplace use.

Based on draft screening assessment, it is proposed that TGOPE is not entering 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 or that constitute or may constitute a danger to the environment on which life depends. Additionally, TGOPE does not meet the criteria for persistence but does meet the criteria for bioaccumulation potential as set out in the *Persistence and Bioaccumulation Regulations* (Canada 2000). The presence of TGOPE in the environment results primarily from human activity.

For further information on the proposed draft screening assessment report conclusion for TGOPE, refer to the draft screening assessment report, available from <http://www.chemicalsubstanceschimiques.gc.ca/challenge-defi/batch-lot-9/index-eng.php>. Please note that the conclusions described in this document and in the draft screening assessment report are preliminary and are subject to change.

1.2 Current Uses and Exposure Sources/Pathways of Concern

TGOPE is not known to be naturally produced in the environment.

Information was collected through surveys conducted for the years 2005 and 2006 under Canada Gazette notices issued pursuant to section 71 of CEPA 1999 (Canada 2006, Canada 2009b). These notices requested data on the Canadian manufacture, import and uses of TGOPE.

Information gathered from the survey notices indicates that TGOPE was not manufactured in Canada in 2005 or 2006. Few companies reported import of this substance in the 1000-10 000 kg/year range in 2006 and 1000-100 000 kg/year range in 2005. Products containing TGOPE may enter the country even if they are not identified as such in the section 71 survey, because they may be imported unknowingly in manufactured items, or in quantities below the 100 kg reporting threshold for the survey (Environment Canada 2009). The substance uses that were reported were primarily in industrial settings and would likely not result in any exposure to the public.

From the literature, TGOPE has been reported to be used in manufacturing high-performance epoxy systems, specially formulated for high-accuracy, elevated-temperature transducer applications (Davidson Measurement 2005). TGOPE has been used in the production of multifunctional epoxy resins, which can be used to improve the properties of cured epoxy resin systems, particularly at elevated temperatures. These epoxy resins may find application in electrical laminates, high-performance composites, and adhesives (Brenntag NV 2009, EPA 2009, Hexion Specialty Chemicals 2005). While the possibility exists for consumers to order these highly specialized products directly from the distributor, these products are not widely available to the general population of Canada as they are designed for specialized and industrial purposes.

In the United States, TGOPE has been used as an adhesive and binding agent in semiconductor and other electronic component manufacturing, and in the resin and synthetic rubber manufacturing sectors (US EPA 2006). In addition, 15 tonnes of TGOPE were used in Sweden in 2005 as an adhesive/binding agent (SPIN 2009).

2. OVERVIEW OF EXISTING RISK MANAGEMENT

2.1 Existing Canadian Risk Management

No existing Canadian risk management was identified.

2.2 Existing International Risk Management

No existing international risk management was identified.

3. PROPOSED RISK MANAGEMENT

As a result of a screening assessment of a substance under section 74 of CEPA 1999, the substance may be found to meet one or more of the criteria under section 64 of CEPA 1999. The Ministers can propose to take no further action with respect to the substance, add the substance to the Priority Substances List (PSL) for further assessment, or recommend the addition of the substance to Schedule 1 of the Act. Under certain circumstances, the Ministers must make a specific proposal to recommend the implementation of virtual elimination. In this case, the Minister proposed to recommend the addition of TGOPE to Schedule 1. As a result, the Ministers will develop a regulation or instrument respecting preventive or control actions to protect the health of Canadians and the environment from the potential effects of exposure to this substance.

In accordance with the Government of Canada's *Cabinet Directive on Streamlining Regulation*³, the proposed risk management regulation(s), instrument(s) or tool(s) will be selected using a thorough, consistent and efficient approach and take into consideration the information that has been received through the Challenge and other information available at this time.

If the final screening assessment report concludes that TGOPE meets the criteria under section 64 of CEPA 1999, **options for risk management would focus on a requirement for notification of the federal government regarding any potential changes in the use-pattern for TGOPE so that the potential for exposure to the Canadian population does not increase.**

4. NEXT STEPS

Industry and other interested stakeholders are invited to submit comments on the content of this risk management scope or other information that would help to inform decision making. Please submit comments prior to May 19, 2010, since the risk management for TGOPE will be moving forward after this date. The proposed risk management approach will be released approximately six months after the release of the risk management scope. This will coincide with the

³ Section 4.4 of the *Cabinet Directive on Streamlining Regulation* states that "Departments and agencies are to: identify the appropriate instrument or mix of instruments, including regulatory and non-regulatory measures, and justify their application before submitting a regulatory proposal."

publication of the final screening assessment report. At that time, there will be opportunity for further consultation. Comments and information submissions on the risk management scope should be submitted to the address provided below:

Program Development and Engagement Division
Gatineau QC K1A 0H3
Tel: 1-888-228-0530 / 819-956-9313
Fax: 819-953-7155
Email: Existing.Substances.Existantes@ec.gc.ca

5. REFERENCES

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