



Australian Government

Department of Health and Aged Care

Australian Industrial Chemicals Introduction Scheme

2-Propenoic acid, branched alkyl ester, polymer with 1-alkene

Assessment statement (CA09606)

10 March 2023



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AICIS assessment (CA09606)

Chemical in this assessment

Name	CAS registry number
2-Propenoic acid, branched alkyl ester, polymer with 1-alkene	AICIS Approved Chemical Name (AACN)

Reason for the assessment

An application for an assessment certificate under section 31 of the *Industrial Chemicals Act 2019* (the Act).

Certificate Application type

Very low to low risk

The assessed polymer meets the definition of polymer of low concern (PLC) as per Schedule 2 of the *Industrial Chemicals (General) Rules 2019* (the Rules), and it is not a high molecular weight polymer that has lung overloading potential. In accordance with section 26(6) of the Rules, the assessed polymer is eligible for exempted introductions.

Defined scope of assessment

The chemical has been assessed:

- as a polymer that meets the PLC definition (Schedule 2 of the Rules) and
- as a polymer that is not a high molecular weight polymer that has lung overloading potential (within the meaning given by the Industrial Chemicals Categorisation Guidelines)
- as an ingredient in lubricant products for general machinery

Summary of assessment

Summary of introduction, use and end use

The assessed polymer will be imported as a lubricating agent into Australia at 100 tonnes per year and at a concentration of up to 75% for reformulation. The end use concentration of the polymer will be in the range of 10% to 75% in lubricant products that will be used in general machinery including transport vehicles.

Human health

Summary of health hazards

No toxicology data were provided for the assessed polymer. The assessed polymer meets the PLC definition and is thus assumed low hazard and no hazard classifications are required

according to the *Globally Harmonised System of Classification and Labelling of Chemicals* (GHS, UNECE 2017), as adopted for industrial chemicals in Australia.

Summary of health risk

This assessment does not identify any risks to public health and workers that would require specific risk management measure when the assessed polymer is introduced and used in accordance with the terms of the assessment certificate.

The assessed polymer contains residual monomers that are classified as hazardous according to the GHS criteria. However, the hazardous residual monomers in the assessed polymer are below the GHS cut-off concentration for hazard classification of the polymer.

Environment

Summary of environmental hazard characteristics

According to domestic environmental hazard thresholds and based on the available data the polymer is:

- Persistent (P)
- Not bioaccumulative (Not B)
- Not toxic (Not T)

Environmental hazard classification

No ecotoxicology data were provided for the assessed polymer. The assessed polymer meets the PLC definition and is thus assumed low hazard. The polymer is therefore not classified for environmental hazards according to the *Globally Harmonised System of Classification and Labelling of Chemicals* (GHS, UNECE 2017), as adopted for industrial chemicals in Australia. However, the hazardous residual monomers in the assessed polymer are below the GHS cut-off concentration for hazard classification of the polymer.

Summary of environmental risk

No significant release of the assessed polymer is expected to occur as a result of its use as a component in lubricant products for general machinery including transport vehicles. A predicted environmental concentration was not calculated, however, if the assessed polymer is released to the environment a large portion of the released polymer is expected to adsorb and partition to soil and sediment (US EPA, 2013). The assessed polymer is expected to share the fate of the lubricant product and be reclaimed and recycled or disposed of according to federal and local regulations at the end of its useful life. The assessed polymer will not be made available for consumer use.

No environmental hazard information was supplied for the assessed polymer. The polymer is assumed to be persistent. The polymer is expected to have low bioavailability based on a number average molecular weight exceeding 1000 g/mol. The polymer is not expected to bioaccumulate based on its low bioavailability. It is not expected to cause toxic effects in aquatic organisms based on its low bioavailability and absence of reactive functional groups.

No risks to the environment have been identified that would require specific risk management measures when the assessed polymer is introduced and used in accordance with the terms of the assessment certificate.

Means for managing risk

Information relating to safe introduction and use

The polymer may be scheduled under the *Industrial Chemicals Environmental Management (Register) Act 2021*. Information from this assessment statement will be considered as part of any scheduling process. This may include information on chemical identity, environmental hazard characteristics, GHS classification and environmental risk.

Conclusions

The conclusions of this assessment are based on the information described in this statement.

The Executive Director is satisfied that when the assessed polymer is introduced and used in accordance with the terms of the assessment certificate, the human health and environment risks can be managed. This is provided that all requirements are met under environmental, workplace health and safety and poisons legislation as adopted by the relevant state or territory.

Note: Obligations to report additional information about hazards under section 100 of the *Industrial Chemicals Act 2019* apply.

Supporting information

Chemical identity

Chemical name	2-Propenoic acid, branched alkyl ester, polymer with 1-alkene (AACN)
Synonyms	VISCOPLEX® 2/18993
Molecular formula	Unspecified
Number Average Molecular weight (Mn)	> 1000 g/mol
Percentage of low molecular weight species (< 1,000 g/mol)	1.5
Percentage of low molecular weight species (< 500 g/mol)	0.22
Chemical description	Polymer of low concern

Relevant physical and chemical properties

Physical form	Viscous liquid
Water solubility	Slightly soluble (up to 10 mg/L)

References

UNECE (United Nations Economic Commission for Europe) (2017). Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Seventh Revised Edition. UNECE, accessed July 2022

US EPA (2013), Interpretive Assistance Document for Assessment of Polymers, URL: [Interpretive Guidance Document \(epa.gov\)](#), accessed December 2022.

