



Australian Government

Department of Health and Aged Care

Australian Industrial Chemicals Introduction Scheme

2-Propenoic acid, 2-methyl-, C_{x-y}-alkyl esters, polymers with *N*-[(dialkylamino)alkyl]-2-methyl-2-propenamide, alkyl methacrylate, alkyl methacrylate and stearyl methacrylate

Assessment statement (CA09572)

12 February 2024



Table of contents

AICIS assessment (CA09572)	3
Chemical in this assessment.....	3
Reason for the assessment	3
Certificate application type	3
Defined scope of assessment	3
Summary of assessment	3
Summary of introduction, use and end use.....	3
Human health.....	3
Environment.....	4
Means for managing risk.....	5
Conclusions	5
Supporting information	6
Chemical identity	6
Relevant physical and chemical properties	6
References	7

AICIS assessment (CA09572)

Chemical in this assessment

AICIS Approved Chemical Name (AACN)

2-Propenoic acid, 2-methyl-, C_{x-y}-alkyl esters, polymers with N-[(dialkylamino)alkyl]-2-methyl-2-propenamide, alkyl methacrylate, alkyl methacrylate and stearyl methacrylate

Reason for the assessment

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

Certificate application type

AICIS received the application in a Very Low to Low Risk type.

Defined scope of assessment

The polymer has been assessed:

- as a polymer that meets the polymer of low concern (PLC) definition (Schedule 2 of the *Industrial Chemicals (General) Rules 2019*) 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 for driveline and engine oils in automotives

Summary of assessment

Summary of introduction, use and end use

The assessed polymer will be imported as a lubricating agent into Australia at 50 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 1% to 25% in lubricant products that will be used for driveline and engine oils in automotives.

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 Harmonized 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.

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 Harmonized System of Classification and Labelling of Chemicals* (GHS) (UNECE 2017), as adopted for industrial chemicals in Australia. 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 viscosity modifier in automotive transmission lubricant formulations.

Any release of the assessed polymer will be from residual amounts of lubricant oils containing the assessed polymer or via accidental spills of lubricant oil containing the assessed polymer during reformulation, storage and handling and distribution. The assessed polymer is non-volatile and is of high molecular weight and as such any environmental release of the assessed polymer from above mentioned processes is expected to be limited to small fugitive emissions. Spills which occur during these processes are expected to be captured and collected for appropriate disposal. The percentage of the assessed polymer that will remain as residue in drums is estimated to be < 0.1% and will be incinerated or disposed of according to local regulations.

As the process of filling new equipment and servicing older equipment will be done by original equipment manufacturers, any release of lubricant oil containing the assessed chemical due to spills is expected to be negligible.

A predicted environmental concentration (PEC) 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 will eventually share the fate of the lubricant oil it is added to, at the end of its useful life and will be either incinerated or disposed of according to local regulations.

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 1,000 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.

Means for managing risk

The information in this statement should be used by a person conducting a business or undertaking at a workplace (such as an employer) to determine the appropriate controls under the relevant jurisdiction Work Health and Safety laws.

Conclusions

The Executive Director is satisfied that the risks to human health and the environment from the introduction and use of the industrial chemical can be managed.

Note:

1. Obligations to report additional information about hazards under Section 100 of the *Industrial Chemicals Act 2019* apply.
2. You should be aware of your obligations under environmental, workplace health and safety and poisons legislation as adopted by the relevant state or territory.

Supporting information

Chemical identity

AACN 2-Propenoic acid, 2-methyl-, C_{x-y}-alkyl esters, polymers with *N*-[(dialkylamino)alkyl]-2-methyl-2-propenamide, alkyl methacrylate, alkyl methacrylate and stearyl methacrylate

Chemical description

The assessed chemical is a polymer with a degree of purity of greater than 99%.

Relevant physical and chemical properties

Physical form Colourless semi-solid (amorphous) gel

Water solubility < 1 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.

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

