File No: LTD/2043

November 2018

NATIONAL INDUSTRIAL CHEMICALS NOTIFICATION AND ASSESSMENT SCHEME (NICNAS)

PUBLIC REPORT

Poly(oxy-1,2-ethanediyl), α-[4-(dimethylamino)benzoyl]-ω-[[4-(dimethylamino)benzoyl]oxy]-

This Assessment has been compiled in accordance with the provisions of the *Industrial Chemicals (Notification and Assessment) Act 1989* (the Act) and Regulations. This legislation is an Act of the Commonwealth of Australia. The National Industrial Chemicals Notification and Assessment Scheme (NICNAS) is administered by the Department of Health, and conducts the risk assessment for public health and occupational health and safety. The assessment of environmental risk is conducted by the Department of the Environment and Energy.

This Public Report is available for viewing and downloading from the NICNAS website or available on request, free of charge, by contacting NICNAS. For requests and enquiries please contact the NICNAS Administration Coordinator at:

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Director
NICNAS

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SUMMARY

The following details will be published in the NICNAS *Chemical Gazette:*

ASSESSMENT REFERENCE	APPLICANT	CHEMICAL OR TRADE NAME	HAZARDOUS CHEMICAL	INTRODUCTION VOLUME	USE
LTD/2043	DIC Australia Pty Ltd	Poly(oxy-1,2-ethanediyl), α-[4-(dimethylamino)benzoyl]-ω-[[4-(dimethylamino)benzoyl]oxy]-	ND*	< 1 tonne per annum	Component of UV-curable industrial printing inks

*ND = not determined

CONCLUSIONS AND REGULATORY OBLIGATIONS

Hazard classification
As no toxicity data were provided, the notified polymer cannot be classified according to the *Globally Harmonised System of Classification and Labelling of Chemicals* (GHS), as adopted for industrial chemicals in Australia.

Human health risk assessment
Under the conditions of the occupational settings described, the notified polymer is not considered to pose an unreasonable risk to the health of workers.

When used in the proposed manner, the notified polymer is not considered to pose an unreasonable risk to public health.

Environmental risk assessment
On the basis of the low import volume, and the assessed use pattern, the notified polymer is not expected to pose an unreasonable risk to the environment

Recommendations

CONTROL MEASURES

Occupational Health and Safety

- No specific engineering controls, work practices or personal protective equipment are required for the safe use of the notified polymer itself. However, these should be selected on the basis of all ingredients in the formulation.

  Guidance in selection of personal protective equipment can be obtained from Australian, Australian/New Zealand or other approved standards.

- A copy of the SDS should be easily accessible to employees.

- If products and mixtures containing the notified polymer are classified as hazardous to health in accordance with the *Globally Harmonised System of Classification and Labelling of Chemicals (GHS)* as adopted for industrial chemicals in Australia, workplace practices and control procedures consistent with provisions of State and Territory hazardous substances legislation should be in operation.

Disposal

- Where reuse or recycling are not appropriate, dispose of the notified polymer in an environmentally sound manner in accordance with relevant Commonwealth, state, territory and local government legislation.

Emergency procedures

- Spills or accidental release of the notified polymer should be handled by physical containment, collection and subsequent safe disposal.

Regulatory Obligations

Secondary Notification
This risk assessment is based on the information available at the time of notification. The Director may call for the reassessment of the chemical under secondary notification provisions based on changes in certain circumstances. Under Section 64 of the *Industrial Chemicals (Notification and Assessment) Act (1989)* the notifier, as well as any other importer or manufacturer of the notified chemical, have post-assessment regulatory obligations to notify NICNAS when any of these circumstances change. These obligations apply even when the notified polymer is listed on the Australian Inventory of Chemical Substances (AICS).

Therefore, the Director of NICNAS must be notified in writing within 28 days by the notifier, other importer or manufacturer:

(1) Under Section 64(1) of the Act; if
- the importation volume exceeds one tonne per annum notified polymer;
- the notified polymer is intended to be used in applications with direct contact with food or pharmaceuticals*;*

or

(2) Under Section 64(2) of the Act; if
- the function or use of the polymer has changed from a component of UV-curable industrial printing inks, or is likely to change significantly;
- the amount of polymer being introduced has increased, or is likely to increase, significantly;
- the polymer has begun to be manufactured in Australia;
- additional information has become available to the person as to an adverse effect of the polymer on occupational health and safety, public health, or the environment.

The Director will then decide whether a reassessment (i.e. a secondary notification and assessment) is required.

Safety Data Sheet
The SDS of the notified polymer and products containing the notified polymer provided by the notifier were reviewed by NICNAS. The accuracy of the information on the SDS remains the responsibility of the applicant.

ASSESSMENT DETAILS

1. APPLICANT AND NOTIFICATION DETAILS

APPLICANT
DIC Australia Pty Ltd (ABN: 12 000 079 550)
323 Chisholm Road
AUBURN NSW 2144

NOTIFICATION CATEGORY
Limited-small volume: Synthetic polymer with Mn < 1,000 g/mol (1 tonne or less per year)

EXEMPT INFORMATION (SECTION 75 OF THE ACT)
No details are claimed exempt from publication.

VARIATION OF DATA REQUIREMENTS (SECTION 24 OF THE ACT)
Variation to the schedule of data requirements is claimed as follows: boiling point, density, vapour pressure, hydrolysis as a function of pH, dissociation constant, flash point, flammability and autoignition temperature.

PREVIOUS NOTIFICATION IN AUSTRALIA BY APPLICANT
None

NOTIFICATION IN OTHER COUNTRIES
None

2. IDENTITY OF CHEMICAL

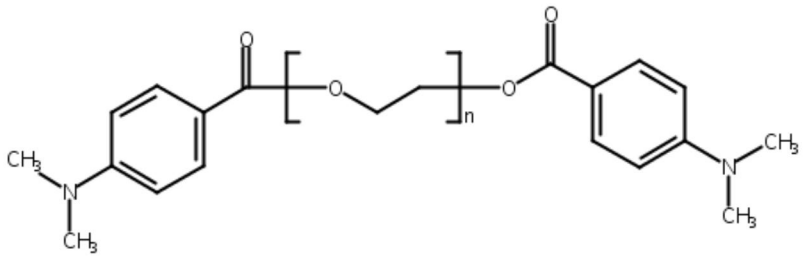
MARKETING NAME
Omnipol ASA
Solarflex Integra Technology Varnish series (products containing the notified polymer at 6% concentration)
Solarflex Nova series (products containing the notified polymer at ≤ 3% concentration)
SunCare Starluxe series (products containing the notified polymer at ≤ 2% concentration)

CAS NUMBER
71512-90-8

CHEMICAL NAME
Poly(oxy-1,2-ethanediyl), α-[4-(dimethylamino)benzoyl]-ω-[[4-(dimethylamino)benzoyl]oxy]-

MOLECULAR FORMULA
$(C_2H_4O)n \cdot C_{18}H_{20}N_2O_3$

STRUCTURAL FORMULA



MOLECULAR WEIGHT

Number Average Molecular Weight (Mn)	340 g/mol
Weight Average Molecular Weight (Mw)	480 g/mol
Polydispersity Index (Mw/Mn)	1.41
% of Low MW Species <1,000 g/mol	95.5
% of Low MW Species <500 g/mol	65.0

ANALYTICAL DATA

Reference IR, HPLC, GPC and UV spectra were provided.

3. COMPOSITION

DEGREE OF PURITY

72-79%

IMPURITIES/RESIDUAL MONOMERS

Chemical Name Ethanol
CAS No. 64-17-5 *Weight %* ≤ 0.1
Hazardous Properties H225 - Highly flammable liquid and vapour
H319 - Causes serious eye irritation

Chemical Name Benzoic acid, 4-(dimethylamino)-, ethyl ester
CAS No. 10287-53-3 *Weight %* ≤ 0.4
Hazardous Properties H360 - May damage fertility or the unborn child (oral)
H411 - Toxic to aquatic life with long lasting effects

Chemical Name Benzene, methyl-
CAS No. 108-88-3 *Weight %* ≤ 0.1
Hazardous Properties H225 - Highly flammable liquid and vapour
H315 - Causes skin irritation
H373 - May cause damage to organs through prolonged or repeated exposure
H360 - May damage fertility or the unborn child

Chemical Name Benzoic acid, 4-(dimethylamino)-, 2-(2-hydroxyethoxy)ethyl ester
CAS No. Not assigned *Weight %* ≤ 1.0
Hazardous properties Unknown

Chemical Name Poly(oxy-1,2-ethanediyl), α-[4-(dimethylamino)benzoyl]-ω-hydroxy-

CAS No. Not assigned *Weight %* 20 – 27
Hazardous Properties Unknown

ADDITIVES/ADJUVANTS

None

POLYMER CONSTITUENTS

Chemical Name	*CAS No.*	*Weight % starting*	*Weight % residual*
Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (PEG200)	25322-68-3	21	0
Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy- (PEG400)	25322-68-3	28	0
Benzoic acid, 4-(dimethylamino)-, ethyl ester	10287-53-3	51	≤ 0.4

4. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AT 20 °C AND 101.3 kPa: Brown to dark brown liquid

Property	**Value**	**Data Source/Justification**
Freezing Point	-21 °C	Measured

Property	Value	Data Source/Justification
Boiling Point	Not determined	Expected to decompose prior to boiling
Density	> 1,000 kg/m^3	Estimated by notifier
Vapour Pressure	< 1 × 10^{-3} kPa at 20 °C	Estimated by notifier
Water Solubility	7.6 g/L at 20 °C	Estimated from log Pow test
Hydrolysis as a Function of pH	$t_{1/2}$ = 2.2 – 2.2 × 10^2 years	Estimated from $t_{1/2}$ of aromatic esters
Partition Coefficient (n-octanol/water)	log Pow = 1.43 at 22 °C	Measured
Adsorption/Desorption	log K_{oc} = 0.96 – 1.16	Measured
Dissociation Constant	Not determined	Contains dissociable functionalities, which will be cationic when associated, but significant association is not expected in the environmental pH range of 4-9
Flash Point	> 100 °C	Estimated by notifier
Flammability	Not determined	Not expected to be highly flammable
Autoignition Temperature	Not determined	Not expected to autoignite under normal conditions of use
Explosive Properties	Not explosive	Expert statement based on chemical structure
Oxidising Properties	Not oxidising	Expert statement based on chemical structure

DISCUSSION OF PROPERTIES
For full details of tests on physical and chemical properties, refer to Appendix A.

Reactivity
The notified polymer is expected to be stable under normal conditions of use.

Physical hazard classification
Based on the limited physico-chemical data provided, the notified polymer cannot be recommended for hazard classification according to the *Globally Harmonised System of Classification and Labelling of Chemicals (GHS),* as adopted for industrial chemicals in Australia.

5. INTRODUCTION AND USE INFORMATION

MODE OF INTRODUCTION OF NOTIFIED CHEMICAL (100%) OVER NEXT 5 YEARS
The notified polymer will not be manufactured in Australia. The notified polymer will be imported as a component of the Solarflex Integra Technology Varnish series of UV-curable ink formulations (containing the notified polymer at 6% concentration). These ink formulations will be reformulated to produce the Solarflex Nova series of finished UV-curable inks containing the notified polymer at ≤ 3% concentration. The notified polymer may also be introduced as a component of the SunCare Starluxe series of finished UV-curable inks at ≤ 2% concentration.

MAXIMUM INTRODUCTION VOLUME OF NOTIFIED CHEMICAL (100%) OVER NEXT 5 YEARS

Year	*1*	*2*	*3*	*4*	*5*
Tonnes	< 1	< 1	< 1	< 1	< 1

PORT OF ENTRY
Sydney, Melbourne

IDENTITY OF MANUFACTURER/RECIPIENTS
DIC Australia Pty Ltd

TRANSPORTATION AND PACKAGING
The notified polymer contained within the ink formulations at 6% concentration will be transported in 200 kg plastic drums. The finished inks produced from these formulations, containing the notified polymer at ≤ 3% concentration, will be transported in 3 kg or 10 kg plastic tubs. The directly introduced finished inks, containing the notified polymer at ≤ 2% concentration, will also be transported in 3 kg or 10 kg plastic tubs. All ink products containing the notified polymer will be transported by road to be stored in the notifier's warehouses, and then delivered to respective printing companies throughout Australia.

USE
The notified polymer will be used as a component of UV-curable printing inks (at ≤ 5% concentration) for flexographic or lithographic printing processes on various substrates including paper, carton boards, foil boards, selected plastics and other non-absorbent substrates. The inks containing the notified polymer may potentially be used to print on substrates used in the food and pharmaceutical industries. The notifier stated that prints with the cured inks will not be in direct contact with food or pharmaceuticals.

OPERATION DESCRIPTION
The notified polymer will not be manufactured in Australia. It will be introduced at 6% concentration for reformulation into UV-curable inks.

Reformulation
At the reformulation site, the notified polymer will be added to the blending vessel to be mixed with other components of inks. The reformulated ink containing the notified polymer at ≤ 3% concentration will be then piped into an automated filling system which will dispense the reformulated ink into 3 kg or 10 kg plastic tubs for distribution to end users. Laboratory technicians will conduct quality control testing on the reformulated inks.

End-Use
The finished UV-curable inks containing the notified polymer at ≤ 3% concentration will be used for commercial printing. Most of these processes are expected to be automated, but certain tasks require manual operations by professional workers. During printing, printer operators will pour the inks from plastic tubs into the ink reservoirs on the printing equipment and monitor the substrates from any problems. The printing inks may be sampled by the quality control (QC) staff during the printing processes. After UV-curing, the notified polymer will be chemically bonded with other ink components to form an inert solid matrix bound onto the substrates, and is not expected to be available for release. Residue inks on the equipment will be cleaned by rags and solvents, and collected for disposal.

Although some of the printing inks containing the notified polymer will be printed on substrates used in the food or pharmaceutical industry, the notifier has indicated that the cured inks will not be in direct contact with food or pharmaceutical products.

6. HUMAN HEALTH IMPLICATIONS

6.1. Exposure Assessment

6.1.1. Occupational Exposure

CATEGORY OF WORKERS

Category of Worker	*Exposure Duration (hours/day)*	*Exposure Frequency (days/year)*
Transport and storage	4 – 8	50
Blending operations	2	200
QC chemists/technical staff	0.5 – 6	25
Cleaning/maintenance	1	2
Printer operators	1 – 2	25
Service technicians	8	200

EXPOSURE DETAILS

Transport and Storage
Transport and storage workers may come into contact with the notified polymer (at ≤ 6% concentration) only in the unlikely event of an accident when the packaging of the imported ink products is breached.

Reformulation
Dermal and ocular exposure to the notified polymer at ≤ 6% concentration may occur during manually weighing, charging blending vessels, sampling, and cleaning. Inhalation exposure to the notified polymer during reformulation is unlikely due to the use of local exhaust ventilation and the use of closed systems. Exposure of workers to the notified polymer will be further reduced by the stated use by the notifier of personal protective equipment (PPE) such as coveralls, gloves and protective goggles.

End use
Dermal or possibly incidental ocular exposure to the notified polymer at ≤ 3% concentration may occur during certain stages of the printing operations, such as transferring the inks from ink containers to printers. Exposure should be minimised by stated safe work practices, such as the use of barrier creams and PPE including impervious gloves, goggles and coveralls, when handling the ink products. Inhalation exposure to the notified polymer at ≤ 3% may also occur due to the possible release of ink aerosols from the printers. However, this is expected to be minimised by the use of local ventilation during the printing process. Incidental dermal and ocular exposure will also be possible during equipment maintenance that may be minimised through the proposed use of barrier creams and appropriate PPE.

Once the ink is cured by UV, the notified polymer will be chemically reacted with other ink ingredients and bound to the matrix of the substrates and is not expected to be available for exposure.

6.1.2. Public Exposure
The UV-curable printing inks containing the notified polymer will not be made available to the general public. Therefore, direct public exposure to the notified polymer is not expected.

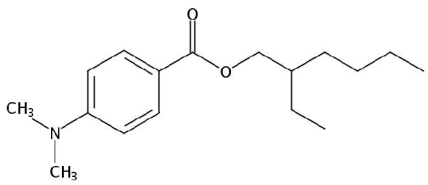
Members of the public may come into contact with printed materials. However, once the ink is cured, the notified polymer will be reacted and bound to the matrix of the substrates and is not expected to be available for exposure.

Although some of the printing inks containing the notified polymer will be printed on substrates used in the food and pharmaceutical industry, the notifier has indicated that the cured inks will not be in direct contact with food or pharmaceutical products. The inks containing the notified polymer will be used on the outer and inner surface of the packaging. In case that the ink is printed on the inner surface of packaging, additional lamination with sealing film will be carried out to prevent the ink ingredients from migrating into food or pharmaceutical products.

6.2. Human Health Effects Assessment
No toxicity data were submitted.

Based on the low molecular weight of the notified polymer (340 g/mol) and partition coefficient (log Pow = 1.43), there is potential for the polymer to cross biological membranes.

The notified polymer contains an aromatic amine group which is a structural alert for skin irritation and carcinogenicity. However a structurally similar chemical Benzoic acid, 4-(dimethylamino)-, 2-ethylhexyl ester (EHDAB) (CAS RN 21245-02-3) was found not to be genotoxic *in vitro* in the standard Ames or chromosomal aberration tests or in the micronucleus test in mouse bone marrow following administration by intraperitoneal injection (EFSA, 2005). EHDAB is of lower molecular weight (277 g/mol) than the notified polymer (340 g/mol) and is therefore considered acceptable to estimate the toxicity of the notified polymer.



EHDAB (CAS RN 21245-02-3)

In a 28 day repeated dose oral toxicity study in rats with EHDAB, the No Observed Adverse Effect Level (NOAEL) was established as 100 mg/kg bw/day based on pigmentation of the spleen in females (EFSA, 2005). No evidence of teratogenic potential was observed. EHDAB is also permitted for use as a sunscreen agent at a maximum concentration of 8% (TGA, 2018).

Health hazard classification
As no toxicity data were provided, the notified polymer cannot be classified according to the *Globally Harmonised System of Classification and Labelling of Chemicals (GHS),* as adopted for industrial chemicals in Australia.

6.3. Human Health Risk Characterisation

6.3.1. Occupational Health and Safety

No toxicity data were submitted for the notified polymer. Based on a structural alert the notified polymer may pose a concern for skin irritation and carcinogenicity. However, based on a structurally similar chemical (EHDAB), the notified polymer is not expected to be genotoxic. Furthermore, EHDAB is of low systemic toxicity (NOAEL = 100 mg/kg bw/day) and is permitted for use as a sunscreen agent at a maximum concentration of 8%.

Reformulation

During reformulation, workers may be exposed to the notified polymer at ≤ 6% concentration via dermal and to a lesser extent, ocular and inhalation routes. The notifier anticipates that worker exposure will be limited through the use of engineering controls such as enclosed systems, automated processes and local exhaust ventilation. The use of appropriate PPE (coveralls, imperious gloves and eye protection) will also be used to limit worker exposure.

End-Use

Workers may come into contact with the notified polymer at a concentration ≤ 3% via dermal and to a lesser extent, ocular and inhalation routes. The notifier anticipates that worker exposure will be limited through the use of engineering controls such as enclosed systems, automated processes and local exhaust ventilation (to remove solvent and any other airborne ink components). The use of appropriate PPE (coveralls, imperious gloves and eye protection) will also be used to limit worker exposure. Furthermore, precautions taken to avoid exposure to the other hazardous ingredients of the product would also reduce exposure to the notified polymer.

Once the inks are cured and dried, the notified polymer will be reacted and bound within a polymer matrix and is not expected to be available for exposure.

Overall, based on the proposed use concentration and expected low hazard of the notified polymer, the risk to workers from use of the notified polymer is not considered to be unreasonable.

6.3.2. Public Health

The printing inks containing the notified polymer will not be available for use to the general public, but the public may come into contact with printed substrates. Some of the printed substrates will be used in the food or pharmaceutical industry. The European Printing Ink Trade Association (EuPIA) has listed the notified polymer in the Suitability List of Photo-initiators for Low Migration UV Printing Inks and Varnishes specifically for use on non-contact side of food packaging, for all packaging types. The notifier has stated that the notified polymer will not be used in a manner with potential for direct food contact.

Once the inks are cured and dried, the notified polymer will be reacted and bound within a polymer matrix and is not expected to be available for exposure.

Therefore, based on the proposed use patterns, the risk to the public from the notified polymer is not considered to be unreasonable.

7. ENVIRONMENTAL IMPLICATIONS

7.1. Environmental Exposure & Fate Assessment

7.1.1. Environmental Exposure

RELEASE OF CHEMICAL AT SITE

The notified polymer will be imported as a component of finished UV-curable ink products or as a component of formulations for local reformulation into finished UV-curable ink products. The reformulation processes are expected to involve blending operations in enclosed systems, followed by automatic filling of the finished products into end-use tubs. Any waste generated during the reformulation process is expected to be disposed of by an approved waste management facility. Accidental spills of the notified polymer during import, reformulation, transport or storage are expected to be adsorbed onto a suitable material and collected for disposal, in accordance with local government regulations.

RELEASE OF CHEMICAL FROM USE

The notified polymer will be used as a component of UV-curable printing inks for commercial flexographic or lithographic printing processes on various substrates including paper, carton boards, foil boards, selected plastics and other non-absorbent substrates. The inks containing the notified polymer may potentially be used to print on substrates used in the food and pharmaceutical industries, with no direct contact to food and pharmaceuticals. Most of these printing processes are expected to be automated. After UV-curing, the notified polymer will be bound onto the substrate matrix, and will not be available for release. Residue ink on the equipment will be cleaned by rags and solvents, and collected for disposal, in accordance with local government regulations.

RELEASE OF CHEMICAL FROM DISPOSAL

Most of the notified polymer is expected to share the fate of the printed substrates to which it has been applied; either subjected to substrate recycling processes or being disposed of to landfill at the end of their useful lives. As estimated by the notifier, printing on paper accounts for approximately 50% of the import volume of the notified polymer. A recent Australian waste report states an average paper recycling rate of 60% (Blue Environment Ltd., 2016). In the worst case scenario, up to 60% of the notified polymer used on paper, which is equivalent to 30% of the annual import volume of the notified polymer, could be released to the aquatic environment from paper recycling processes.

The notifier estimates that empty ink containers may contain residues of the notified polymer of up to 1% of the import volume. These containers are expected to be disposed of by an approved waste management facility, in accordance with local government regulations.

7.1.2. Environmental Fate

Most of the notified polymer is expected to share the fate of the substrates to which it has been applied, either subjected to substrate recycling processes, or being disposed of to landfill at the end of their useful lives. In landfill, the notified polymer will be present as cured solids and will be neither bioavailable nor mobile. Waste plastic items may be recycled, but eventually plastic items containing the notified polymer will be disposed of to landfill. During paper recycling processes, waste paper is repulped using a variety of chemical treatments which, amongst other things, enhance ink detachment from the fibres. Wastewater from paper recycling processes containing the notified polymer is expected to be treated at an onsite wastewater treatment plant before potential release to sewers or on-site re-use. Based on its high water solubility and low log Pow, the notified polymer is expected to be mainly present in liquid phase at wastewater treatment plant. In landfill and water, the notified polymer is expected to eventually degrade via biotic and abiotic processes to form water and oxides of carbon and nitrogen.

7.1.3. Predicted Environmental Concentration (PEC)

The predicted environmental concentration (PEC) has been calculated to assume 50% of the import volume of the notified polymer will be used on paper substrate and 60% of this would be potentially released to sewers through paper recycling processes (Blue Environment Ltd., 2016). As paper recycling occurs at facilities located throughout Australia, it is anticipated that such releases will occur over 260 working days per annum into the Australian effluent volume. It is also assumed under the worst-case scenario that there is no removal of the notified polymer during wastewater treatment processes.

Predicted Environmental Concentration (PEC) for the Aquatic Compartment		
Total Annual Import/Manufactured Volume	1,000	kg/year
Proportion expected to be released to sewer	30	%
Annual quantity of chemical released to sewer	300	kg/year
Days per year where release occurs	260	days/year
Daily chemical release:	1.15	kg/day
Water use	200.0	L/person/day
Population of Australia (Millions)	24.386	million
Removal within STP	0	%
Daily effluent production:	4,877	ML
Dilution Factor - River	1.0	
Dilution Factor - Ocean	10.0	
PEC - River:	0.24	µg/L
PEC - Ocean:	0.02	µg/L

STP effluent re-use for irrigation occurs throughout Australia. The agricultural irrigation application rate is assumed to be 1000 L/m^2/year (10 ML/ha/year). The notified polymer in this volume is assumed to infiltrate and accumulate in the top 10 cm of soil (density 1500 kg/m^3). Using these assumptions, irrigation with a concentration of 0.24 µg/L may potentially result in a soil concentration of approximately 1.58 µg/kg.

7.2. Environmental Effects Assessment

No ecotoxicity data for the notified polymer were submitted by the notifier.

7.2.1. Predicted No-Effect Concentration

The Predicted No-Effect Concentration (PNEC) has not been calculated since no ecotoxicological data were submitted.

7.3. Environmental Risk Assessment

The Risk Quotient (Q = PEC/PNEC) has not been calculated as the PNEC is not available. However, based on the limited import volume of 1 tonne per annum, the resulting PEC of the notified polymer is not expected to be released to the environment in concentrations that would pose a risk to aquatic life. Therefore, on the basis of the low import volume, and the assessed use pattern, the notified polymer is not expected to pose an unreasonable risk to the environment.

APPENDIX A: PHYSICAL AND CHEMICAL PROPERTIES

Freezing Point -21 °C

Method Not specified
Remarks None
Test Facility Chemicalia (2018a)

Partition Coefficient (n-octanol/water) log Pow = 1.43 at 22 °C

Method OECD TG 117 Partition Coefficient (n-octanol/water).
Remarks Flask Method
Test Facility Sharp and Howells (2017)

Adsorption/Desorption log K_{oc} = 0.96 – 1.16

Method OECD TG 106 Adsorption - Desorption Using a Batch Equilibrium Method

Soil Type	*Organic Carbon Content (%)*	*pH*	*Koc (mL/g)*
Sand	Not provided	4.8	9.2
Sandy loam soil	Not provided	7.5	14.4
Builders clay	Not provided	6.3	12.0

Remarks Aqueous phases were analysed by UV-VIS and Fourier Transform Infrared Spectrometry (FTIR)
Test Facility Sharp and Howells (2017)

Explosive Properties Not explosive

Method EC Council Regulation No 440/2008 A.14 Explosive Properties (2008)
Remarks The explosive properties of the notified polymer were estimated by appraising its molecular structure and estimating its oxygen balance.
Test Facility Chemicalia (2018b)

Oxidising Properties Not oxidising

Method EC Council Regulation No 440/2008 A.21 Oxidizing Properties (Liquids)
Remarks The oxidising properties of the notified polymer were estimated by appraising its molecular structure.
Test Facility Chemicalia (2018b)

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Blue Environment Pty Ltd (2016) Australian National Waste Report 2016. Canberra, Australia.

Chemicalia (2018a) Melting Point/Freezing Point Determination of Omnipol ASA (No study number, June, 2018). Victoria, Australia, Chemicalia Pty Ltd (Unpublished report submitted by notifier).

Chemicalia (2018b) Omnipol ASA Explosive Properties and Oxidising Properties (Liquids) (No study number, February, 2018). Victoria, Australia, Chemicalia Pty Ltd (Unpublished report submitted by notifier).

EFSA (2005) Opinion of the Scientific Panel on Food Additives, Flavourings, Processing Aids and Materials in Contact with Food on a request from the Commission related to 2-Isopropyl thioxanthone (ITX) and 2-ethylhexyl-4-dimethylaminobenzoate (EHDAB) in food contact materials (Question numbers EFSA-Q-2005-240 & EFSA-Q-2005-241) Adopted on 7 December 2005.The EFSA Journal (2005 293, 1-15.

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