File No PLC/805

January 2009

NATIONAL INDUSTRIAL CHEMICALS NOTIFICATION AND ASSESSMENT SCHEME (NICNAS)

FULL PUBLIC REPORT

Hostagliss A

This Assessment has been compiled in accordance with the provisions of the *Industrial Chemicals (Notification and Assessment) Act 1989* (Cwlth) (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 Ageing, 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, Water, Heritage and the Arts.

For the purposes of subsection 78(1) of the Act, this Full Public Report may be inspected at our NICNAS office by appointment only at 334-336 Illawarra Road, Marrickville NSW 2204.

This Full Public Report is also 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:

Street Address:	334 - 336 Illawarra Road MARRICKVILLE NSW 2204, AUSTRALIA.
Postal Address:	GPO Box 58, SYDNEY NSW 2001, AUSTRALIA.
TEL:	+ 61 2 8577 8800
FAX	+ 61 2 8577 8888.
Website:	www.nicnas.gov.au

Director
NICNAS

TABLE OF CONTENTS

FULL PUBLIC REPORT 3
1. APPLICANT AND NOTIFICATION DETAILS 3
2. IDENTITY OF CHEMICAL 3
3. PLC CRITERIA JUSTIFICATION 3
4. PHYSICAL AND CHEMICAL PROPERTIES 4
5. INTRODUCTION AND USE INFORMATION 4
6. HUMAN HEALTH IMPLICATIONS 4
Hazard Characterisation 4
7. ENVIRONMENTAL IMPLICATIONS 5
Hazard Characterisation 5
8. CONCLUSIONS AND RECOMMENDATIONS 5
Human health risk assessment 5
Environmental risk assessment 5
Recommendations 5
Regulatory Obligations 6

FULL PUBLIC REPORT

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1. APPLICANT AND NOTIFICATION DETAILS

APPLICANT(S)
Clariant (Australia) Pty Ltd (ABN: 30 069 435 552)
Brandon Office Park, Building 5, Level 2
530-540 Springvale Road
Glen Waverley VIC 3150

NOTIFICATION CATEGORY
Polymer of Low Concern

EXEMPT INFORMATION (SECTION 75 OF THE ACT)
Data items and details claimed exempt from publication:
Chemical Name, Other Names, CAS Number, Molecular and Structural Formulae, Molecular Weight, Polymer Constituents, Analogue Identity, Residual Monomers/Impurities, Use Details, and Import Volume.

VARIATION OF DATA REQUIREMENTS (SECTION 24 OF THE ACT)
No variation to the schedule of data requirements is claimed.

PREVIOUS NOTIFICATION IN AUSTRALIA BY APPLICANT(S)
None

NOTIFICATION IN OTHER COUNTRIES
None

2. IDENTITY OF CHEMICAL

MARKETING NAME(S)
Hostagliss A

MOLECULAR WEIGHT (MW)
Number Average Molecular Weight (Mn) >1000 Da

REACTIVE FUNCTIONAL GROUPS
The notified polymer contains only low concern functional groups.

3. PLC CRITERIA JUSTIFICATION

Criterion	*Criterion met*
Molecular Weight Requirements	Yes
Functional Group Equivalent Weight (FGEW) Requirements	Yes
Low Charge Density	Yes
Approved Elements Only	Yes
Stable Under Normal Conditions of Use	Yes
Not Water Absorbing	Yes
Not a Hazard Substance or Dangerous Good	Yes

The notified polymer meets the PLC criteria.

4. PHYSICAL AND CHEMICAL PROPERTIES

Appearance at 20°C and 101.3 kPa:	Clear yellow-brown viscous liquid
Melting Point/Glass Transition Temp	-30°C (approx)
Density	940 kg/m^3 (approx) at 20°C
Water Solubility	< 10 mg/L at 20°C, by analogy with a similar polymer (Hostagliss FN).
Dissociation Constant	pKa ~ 5 (carboxylic acid functionality)
Reactivity	Stable under normal environmental conditions. Hazardous reactions may occur with oxidising agents. The notified polymer decomposes at temperatures >380°C. In case of fire, hazardous combustion gases such as carbon dioxide and carbon monoxide will be formed.
Degradation Products	Not expected under normal conditions of use. The notified polymer is expected to biodegrade to its constituents.

5. INTRODUCTION AND USE INFORMATION

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

Year	*1*	*2*	*3*	*4*	*5*
Tonnes	10-20	10-20	10-20	10-20	10-20

Use
The notified polymer will be used as an additive in metalworking fluids.

Mode of Introduction and Disposal
The notified polymer will be imported as a component of the product, Hostagliss A, at concentrations > 70% or as a component of formulated metalworking products (concentrations < 50%) in 200L plastic or steel drums or 1000L IBC containers. From the entry port, it will be transported to customers for reformulation and/or to end users.

The product, Hostagliss A, will require reformulation into metalworking products containing concentrations < 50% prior to end use. Reformulation typically involves pumping Hostagliss A into closed mixing vessels where it will be mixed with other materials and then drummed off.

Certain end use applications will involve further dilution of the end use metalworking products into large volume recirculating baths that may or may not be enclosed. Operators will then use the diluted product containing the notified polymer to assist in metal working procedures by applying it to the metals (which may be either through a can or hose/pipe, or by spraying, etc) prior to machining.

6. HUMAN HEALTH IMPLICATIONS

Hazard Characterisation
The notified polymer meets the PLC criteria and can therefore be considered to be of low hazard. This is supported by the result obtained in an acute oral toxicity study on rats treated with an analogue of the notified polymer (Hostagliss FN).

Endpoint	*Result*	*Effects Observed?*	*Test Guideline*
1. Rat, acute oral	LD50 > 2000 mg/kg bw	no	OECD TG 401

Occupational Health and Safety Risk Assessment
Dermal and ocular exposure may potentially occur during certain processes involving the notified polymer such as during reformulation processes, splashes from baths containing the metal working fluids, and when handling objects that have been covered with fluids containing the notified polymer. Inhalation exposure may also occur if the metalworking fluids containing the notified polymer are applied to the metal objects by aerosol sprays, or if mists/vapours are generated during grinding and machining operations of metal objects. However, exposure to significant amounts of the notified polymer is limited as a result of the automation of some of the above processes, and the personal protective equipment expected to be worn by workers.

Overall, the OHS risk presented by the notified polymer is expected to be low, based on the low exposure to workers and the expected low intrinsic hazard of the notified polymer.

Public Health Risk Assessment
As the notified polymer is intended only for use in industry, public exposure to the notified polymer is not expected.

As there will be no exposure of the public to products containing the notified polymer the risk to the public from exposure to the notified polymer is considered to be negligible. Where exposure occurs, the expected low hazard of the notified polymer translates to low risk.

7. ENVIRONMENTAL IMPLICATIONS

Hazard Characterisation
The notified polymer meets the PLC criteria and can therefore be considered to be of low hazard. This is supported by environmental endpoints observed in testing conducted on an analogue polymer Hostagliss FN.

Endpoint	*Result*	*Effects Observed?*	*Test Guideline*
Ready biodegradability	Readily biodegradable	No microbial inhibition	OECD TG 301B
Fish Toxicity	LC50 > 100 mg/L	no	OECD TG 203

In the biodegradation test, the pass level of > 60% was reached after 10 days, and biodegradation reached 87% after 28 days, based on evolution of carbon dioxide. The fish toxicity endpoint is expressed above as the nominal concentration. The dissolved concentration was determined as < 10 mg/L based on measurement of DOC.

Environmental Risk Assessment
The result with the analogue Hostagliss FN indicates that the notified polymer is likely to be readily biodegradable and not expected to be harmful to fish, indicative of low environmental risk to the aquatic compartment.

8. CONCLUSIONS AND RECOMMENDATIONS

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

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

Environmental risk assessment
Based on the ready biodegradability and low aquatic toxicity of the analogue Hostagliss FN and the reported use pattern, the notified polymer is not considered to pose a 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 MSDS should be easily accessible to employees.

- If products and mixtures containing the notified polymer are classified as hazardous to health in accordance with the *Approved Criteria for Classifying Hazardous Substances* [NOHSC:1008(2004)], workplace practices and control procedures consistent with provisions of State and Territory hazardous substances legislation must be in operation.

Disposal

- The notified polymer should be disposed of to landfill.

Emergency procedures

- Spills and/or accidental release of the notified polymer should be handled by 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 polymer 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 polymer, 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 notified polymer is introduced in a chemical form that does not meet the PLC criteria.

or

(2) Under Section 64(2) of the Act; if
  - the function or use of the notified polymer has changed from an additive in metalworking fluids, or is likely to change significantly;
  - the amount of notified polymer being introduced has increased, or is likely to increase, significantly;
  - if the notified polymer has begun to be manufactured in Australia;
  - additional information has become available to the person as to an adverse effect of the chemical 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.

Material Safety Data Sheet
The MSDS of the products containing the notified polymer provided by the notifier was reviewed by NICNAS. The accuracy of the information on the MSDS remains the responsibility of the applicant.