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**NATIONAL INDUSTRIAL CHEMICALS NOTIFICATION AND ASSESSMENT SCHEME
(NICNAS)**

FULL PUBLIC REPORT

Chemical in New Rust Preventive Base

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:

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**Director
NICNAS**

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FULL PUBLIC REPORT

Chemical in New Rust Preventive Base

1. APPLICANT AND NOTIFICATION DETAILS

APPLICANT(S)

BP Australia Pty Ltd (ABN: 87 008 459 407)
132 McCredie Rd
GUILDFORD NSW 2161

NOTIFICATION CATEGORY

Limited-small volume: Chemical other than polymer (1 tonne or less per year).

EXEMPT INFORMATION (SECTION 75 OF THE ACT)

Data items and details claimed exempt from publication: Chemical names, CAS number, molecular formula, structural formula, molecular weight, spectral data, degree of purity, hazardous and non-hazardous impurities, adjuvants and additives, introduction volume, and details of use.

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 known.

2. IDENTITY OF CHEMICAL

MARKETING NAME(S)

New Rust Preventive Base

OTHER NAME(S)

None

MOLECULAR WEIGHT

>500 Da,

ANALYTICAL DATA

Reference HPLC, Infra red spectroscopy, spectra were provided.

3. COMPOSITION

DEGREE OF PURITY <70%

HAZARDOUS IMPURITIES/RESIDUAL MONOMERS None.

4. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AT 20°C AND 101.3 kPa: Dark brown, waxy solid

Property	Value	Data Source/Justification
Melting Point/Freezing Point	59.85°C (Pour Point)	Measured
Boiling Point	>400°C at 101.49 kPa °C	Measured
Density	890 kg/m ³ at 20.0°C	Measured
Vapour Pressure	1.3 × 10 ⁻⁵ kPa at 25°C	Measured
Water Solubility	< 1.0 × 10 ⁻⁴ g/L at 20°C	Estimated
Hydrolysis as a Function of pH	Potentially hydrolysable	Based on the functional group chemistry of the notified substance
Partition Coefficient (n-octanol/water)	log P _{ow} > 6.5 at 20°C	Estimated
Adsorption/Desorption	log K _{oc} > 5.63 at 20°C	Estimated
Dissociation Constant	Not ionised in the environmental pH range	Based on the functional group chemistry of the notified substance
Particle Size	The notified chemical is a liquid.	NA
Flammability (solids)	Not highly flammable.	Measured
Autoignition Temperature	390 °C	Measured
Explosive Properties	Not likely to be explosive.	Estimated
Oxidising Properties	Not likely to have oxidising properties.	Estimated

DISCUSSION OF PROPERTIES

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

Reactivity

Expected to be stable under normal conditions.

Dangerous Goods classification

Based on the available data, the notified chemical is not classified as a Dangerous Goods according to the Australian Dangerous Goods Code (FORS, 1998).

5. INTRODUCTION AND USE INFORMATION

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

The notified chemical will not be manufactured in Australia. It will be imported into Australia as a component of rust preventive base in 200kg drums and reformulated into a number of finished rust preventive products.

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, NSW.

IDENTITY OF MANUFACTURER/RECIPIENTS

BP Australia Pty Ltd

132 McCredie Rd

GUILDFORD NSW 2161

Reformulation will occur predominantly in NSW. The reformulated products will be used throughout Australia.

TRANSPORTATION AND PACKAGING

The notified chemical will be imported into Australia as a component (<20%) of a rust preventive base in 200kg drums. It will be transported from the wharf to BP Australia Pty Ltd warehouse by road and stored before being reformulated into finished rust preventive products. The finished products will be packaged into 20L and 200L drums and will be transported by road or rail to end use sites.

USE

The notified chemical is a component of industrial rust preventive products.

OPERATION DESCRIPTION

The notified chemical will not be manufactured in Australia. It will be introduced into Australia as a component (<20%) of a rust preventive base, which will be reformulated in Australia into a range of industrial rust preventive products.

Reformulation

When required, the 200 kg drums containing the rust preventive base will be moved via forklift from the storage area to the blending area. The notified chemical will be weighed and then pumped by an automated transfer pump to an enclosed mixing vessel, where it will be blended with additives and hydrocarbon solvents. During the blending process, samples of the blend will be taken by a laboratory staff via a sampling port on the blending tank and tested for quality control. After quality control approval, the blends containing less than 15% notified chemical would be filtered and pumped from the blending tanks into 20L and 200L drums.

End use

The rust preventive products will be applied predominantly by complete immersion. However, where this is not possible, these may be applied by brush or spray. Following application, the treated parts will be air dried up to 2 hours in a well-ventilated area.

During application by complete immersion, the rust preventative product is pumped by enclosed metering pump system from the drum into the immersion baths, which may range in volume from 200L to 100000L. The final concentration of the notified chemical in the immersion bath will be less than 1%. The automated dosing pump will also be used to top up or for maintenance of immersion baths. The immersion bath is situated in the area fitted with filtered exhaust system.

Spray application (airless and conventional spray guns) will be conducted in spray booths and any mixing that is required prior to the application will also take place in the booths. Application by brush is expected to occur in areas that are appropriately ventilated.

6. HUMAN HEALTH IMPLICATIONS

6.1 Exposure assessment

6.1.1 Occupational exposure

NUMBER AND CATEGORY OF WORKERS

<i>Category of Worker</i>	<i>Number</i>	<i>Exposure Duration (hours/day)</i>	<i>Exposure Frequency (days/year)</i>
Transport and storage	12	1 hr/day	10 days/year
<i>Reformulation</i>			
Plant operators	20	8 hrs/day	50 days/year
Laboratory staff	2	6-8 hrs/day	20 days/year
Maintenance staff	5	8 hrs/day	2 days/year
<i>End user</i>			
Metal workers	>100	8 hrs/day	240 days/year

EXPOSURE DETAILS

Transport and storage

Transport and warehouse workers will be exposed to the notified chemical only in the event of a spill or if the packaging accidentally breached.

Reformulation

Dermal and ocular exposure to the notified chemical in rust preventive base (<20% notified chemical) may occur as result of drips and spills during connecting/disconnecting of the transfer lines when the blending vessels are charged. Dermal exposure and ocular exposure to the notified chemical in the rust preventive product (<15% notified chemical) as a result of drips and spill may occur during the connection/disconnection

of filling lines and during QC sampling and testing. During these activities, worker exposure will be minimised by use of personal protective equipment such as coveralls, impervious gloves and safety glasses.

Cleaning and maintenance of formulation equipment

At the end of formulation operations, the equipment will be flushed to allow maintenance activities to occur. During these activities, worker exposure to the notified chemical will be minimal and will be further minimised by the use of gloves, overall and safety glasses.

End use applications

Immersion bath application

Workers may be exposed to the notified chemical through drips and spills during connection/disconnection of pump lines. However, exposure to the notified chemical will be minimal once it is introduced into the enclosed immersion bath. Workers will wear coveralls, goggles and impervious gloves to minimise exposure while performing end use operations. Therefore, dermal and ocular exposure is expected to be low during the end use operations.

Spray gun application

The personnel involved in spray gun application will be appropriately trained and qualified and all spray applications will occur in designated spray booths. Personal protective equipment worn by workers will be mainly determined by other constituents of the rust preventive formulation, however, as a minimum, safety glasses, impermeable clothing and impermeable gloves and if necessary, an air respirator will be worn. Local exhaust ventilation will also be employed during spray application to remove any generated mists. The spray may fall on and adhere to the adjacent surfaces such as walls, ground etc and in order to prevent this, these will be covered by kraft paper or newspaper. Therefore, exposure is expected to be low during spray gun applications.

Brush application

During brush application, the rust preventive product is manually applied onto the articles using a brush. Personnel involved in brush application will wear overalls, eye protection and impermeable gloves. Therefore, exposure is expected to be low during brush applications.

6.1.2. Public exposure

The rust preventive base and the products containing the notified chemical will only be available to industrial end users. Exposure to the public will only occur in the event of spill or industrial accident during the transport and storage of the rust preventive base or products containing the notified chemical. Therefore, public exposure to the notified chemical is expected to be negligible.

6.2. Human health effects assessment

No toxicity data were submitted for the notified chemical. The molecular weight of the notified chemical together with its partition coefficient indicate that dermal uptake of the notified chemical is likely to be low.

The notified chemical is a derivative of Petrolatum. Summaries of toxicology studies were available for some endpoints for petrolatum and petrolatum derivatives (IUCLID 2000, High Production Volume (HPV) Challenge Program). In addition, another potential metabolite has been extensively reviewed.

Acute toxicity

Petrolatum and Petrolatum derivatives are of low acute oral and dermal toxicity. Although another potential metabolite is classified as harmful if swallowed, the notified chemical is expected to be of low toxicity.

Irritation and Sensitisation

A 50/50 blend of paraffin and petrolatum was shown to be slightly irritating to the skin and eyes. Although the nature of the derivation may reduce the irritation potential, slight irritation effects cannot be ruled out. Petrolatum is not considered to be a sensitiser.

Repeated Dose Toxicity (sub acute, sub chronic, chronic)

No treatment related effects were observed for a petrolatum derivative in a 54 day repeat dose oral study in rats. Exposure to large amounts of another potential metabolite can damage the kidneys, nervous system, and heart.

Carcinogenicity

Petrolatum has shown no carcinogenic effects in a number of oral and dermal carcinogenicity studies. Petrolatum is also listed on the Hazardous Substance Information System (HSIS) (NOHSC), with Notes N & H and a risk phrase R45: May cause cancer. Note N states that 'the classification as a carcinogen need not apply if the full refining history is known and it can be shown that the substance from which it is produced is not a carcinogen'. The MSDS of the petrolatum precursor for the notified chemical states that the product is not hazardous and the product does fulfil the requirements of Notes N and it is unlikely to be a carcinogen. Therefore, based on the above information, it is likely that the notified chemical is not a potential carcinogen.

Classification

Based on the available data the notified chemical cannot be classified as hazardous under the *Approved Criteria for Classifying Hazardous Substances* (NOHSC, 2004).

6.3. Human health risk characterisation

6.3.1. Occupational health and safety

No toxicity data were submitted for the notified chemical. The notified chemical cannot be classified as hazardous, based on the available data. However, toxicology information was available for some endpoints for petrolatum derivatives and another potential metabolite. Based on the available data, the notified chemical may be a slight skin and eye irritant. It is likely that the notified chemical is not a carcinogen but may cause adverse systemic effects at high enough doses.

Exposure to the notified chemical at concentrations up to 20% is likely during reformulation and end use applications. However, considering the use of engineering controls and PPE during these procedures, exposure is expected to be minimal. In addition, dermal uptake of the notified chemical is expected to be low. Therefore, the risk to workers is expected to be low.

6.3.2. Public health

The rust preventive base and the products containing the notified chemical will not be available to general public and will only be available to industrial end users. Therefore, public exposure to the notified chemical is expected to be negligible and the risk to public health is also considered to be negligible.

7. ENVIRONMENTAL IMPLICATIONS

7.1. Environmental Exposure & Fate Assessment

7.1.1 Environmental Exposure

RELEASE OF CHEMICAL AT SITE

Release of the notified chemical to the environment during importation, transport and warehousing will only occur in the unlikely event of accidental spills or leaks from the 200 kg metal import drums. Accidental spills of the notified chemical will be contained by bunding and an absorbent material such as sand will be used to absorb the liquid spills. The absorbent material containing the notified chemical will be recovered for subsequent recycling, salvage or safe disposal.

It is estimated that 1% of the annual introduction volume of the notified chemical will be lost as a result of spills and leaks during the formulation of the finished rust preventive end-use product. Material lost in spills and leaks will be collected, placed in labelled containers and disposed of by approved waste disposal contractors. It is also estimated that 1% of the annual introduction volume will be lost as a result of equipment cleaning. The waste from the equipment cleaning will be reused in the formulation process or collected and stored for disposal by licensed waste disposal contractors. Approximately 1% of the annual introduction volume of the rust preventive base will remain in import drums after reformulation has occurred. It is expected that these drums will be rinsed with a suitable solvent to remove any residual rust preventive base and the rinsate reused in the reformulation process. The empty drums will be recycled or disposed of to landfill.

RELEASE OF CHEMICAL FROM USE

It is estimated that up to 1% of the annual introduction volume will be lost as waste during use as result of drips and spills, including any that may result from “drag out” when the coated articles are removed from the immersion bath. This waste will be collected by licensed waste disposal contractors and disposed of to landfill, incinerated, or recycled in accordance with local and national guidelines.

Application by spray or brush is expected to be rare. Overspray will be collected within the spray booth on protective materials (e.g. kraft paper or newspaper) and any volatile materials are likely to be captured by the filtering systems within the spray booths. The kraft paper and newspaper will be collected and disposed of by licensed waste disposal contractor most likely to landfill or by incineration. Application equipment including brushes will be cleaned with appropriate solvents with the washings held in storage tanks prior to disposal by licensed waste contractors.

Used drums will contain approximately 1% of the annual introduction volume as residues of the end-use product. The used drums will be collected by approved contractors and will either be recycled or disposed of to landfill. Any rinsates from the drums that will be generated during the disposal process will be disposed of in accordance with local or national guidelines, which may include recycling, incineration, or disposal to landfill.

RELEASE OF CHEMICAL FROM DISPOSAL

It expected that the contents of the immersion tanks will be changed every 12 months and the liquid content disposed of by approved waste disposal contractors. As these immersion liquids have a high content of hydrocarbons, it is expected that waste disposal of used bath liquids (including the notified substance) will typically involve incineration in industrial burners to recover their high calorific value.

7.1.2 Environmental fate

No environmental fate data were submitted.

7.1.3 Predicted Environmental Concentration (PEC)

The notified substance is not expected to be released to aquatic ecosystems. Hence, no PEC has been calculated.

7.2. Environmental effects assessment

No ecotoxicity data were submitted.

7.2.1 Predicted No-Effect Concentration

As no ecotoxicology data are available for this notified substance, no PNEC has been calculated.

7.3. Environmental risk assessment

The major fraction of the imported quantity of the notified substance is expected to be incinerated in industrial burners along with used immersion fluids to yield oxides of carbon and water. A small fraction of the imported quantity of the notified substance may be disposed of in landfill sites. In landfill, the notified substance is expected to bind strongly to soil and organic matter based on its low water solubility and high indicated affinity for soil. The notified substance is not expected to be mobile in soil and will degrade by both biotic and abiotic processes in this compartment. There are no pathways for significant releases of the notified substance into aquatic ecosystems based on the intended use in industrial rust protection products. As there are no pathways for significant environmental exposure, the risk of an adverse effect on the environment from the intended use of the notified substance is acceptably low.

8. CONCLUSIONS AND REGULATORY OBLIGATIONS

Hazard classification

Based on the available data the notified chemical cannot be classified as hazardous under the *Approved Criteria for Classifying Hazardous Substances* [NOHSC:1008(2004)].

And

Similarly, it is not possible to categorise the notified chemical according to the Globally Harmonised System for the Classification and Labelling of Chemicals (GHS) (United Nations 2003) for either health or environmental effects

Human health risk assessment

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

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

Environmental risk assessment

On the basis of the proposed use pattern and the low potential for environmental exposure, the notified substance is not considered to pose a risk to the environment.

Recommendations

CONTROL MEASURES

Occupational Health and Safety

- Employers should implement the following safe work practices to minimise occupational exposure during handling of the notified chemical as introduced:
 - Minimise spills and drips
 - Avoid contact with eyes and skin.
 - Avoid aerosol formation.
 - Use of spray paints containing the notified chemical should be carried out in accordance with the *ASCC National Guidance Material for Spray Painting* [NOHSC (1999b)] or relevant State and Territory Codes of Practice.
- Employers should ensure that the following personal protective equipment is used by workers to minimise occupational exposure to the notified chemical as introduced:
 - *Protective clothing*
 - *Chemical-resistant gloves*
 - *Safety glasses*

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 chemical 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 substance should be disposed of by incineration or to landfill.

Storage

- The following precautions should be taken regarding the storage of the notified chemical:
 - Store in sealed containers under cool, dry conditions.

Emergency procedures

- Spills or accidental release of the notified substance 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 chemical 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 chemical; or
 - if the chemical is derived from Petrolatum (or another Petrolatum derivative) that is classified as a carcinogen or where the full refinery history is not known and it cannot be shown that the substance from which it is produced is not a carcinogen.
- (2) Under Section 64(2) of the Act; if
 - the function or use of the chemical has changed from as a component of industrial rust preventive products, or is likely to change significantly;
 - the amount of chemical being introduced has increased from one tonne, or is likely to increase, significantly;
 - if the chemical 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 chemical provided by the notifier were reviewed by NICNAS. The accuracy of the information on the MSDS remains the responsibility of the applicant.

APPENDIX A: PHYSICAL AND CHEMICAL PROPERTIES

Melting Point/Freezing Point 59.85°C (Pour Point)

Method	OECD TG 102 Melting Point/Melting Range. ISO 3016.
Remarks	A sample of test material was poured into a test jar, which was then enclosed in a glass jacket. The sample was heated to 66°C in a water bath set at 68°C before being allowed to cool in air. Starting at 66°C and at intervals of 3°C, the sample was tilted to a horizontal position for a period of 5 seconds during which the sample was observed for signs of flow.
Test Facility	Safepharm Laboratories (2007a)

Boiling Point >400°C at 101.49 kPa °C

Method	OECD TG 103 Boiling Point. ASTM E537-86.
Remarks	Determined using differential scanning calorimetry (DSC) method.
Test Facility	Safepharm Laboratories (2007a)

Density 890 kg/m³ at 20.0°C

Method	OECD TG 109 Density of Liquids and Solids.
Remarks	Determined using the pycnometer method (immersion with water).
Test Facility	Safepharm Laboratories (2007a)

Vapour Pressure 1.3×10^{-5} kPa at 25°C

Method	OECD TG 104 Vapour Pressure.
Remarks	Determined using a vapour pressure balance with measurements being made at several temperatures and linear regression used to calculate the vapour pressure at 25°C.
Test Facility	Safepharm Laboratories (2007b)

Water Solubility $<1.0 \times 10^{-4}$ g/L at 20 ± 0.5°C

Method	OECD TG 105 Water Solubility.
Remarks	A preliminary test by the shake-flask method indicated that the water solubility of the notified substance was 2.3×10^{-4} g/L. The definitive water solubility test was also carried out by a shake-flask method because these wax-like test materials are unsuitable for the column elution method specified for chemicals with low water solubility. In both the preliminary and definitive solubility tests, attempts were made to quantify the concentration of notified substance in the aqueous test phase by high-performance liquid chromatography on a gel permeation column. Although this analytical technique revealed the presence of water-extractable components in the aqueous phase, it was incapable of resolving the notified substance from the major impurities. The solubility was therefore estimated from the minimum measurable concentration of notified substance determined in a fortified recovery test. The reported water solubility is therefore an upper limit for the water-extractable components of the notified substance.
Test Facility	Safepharm Laboratories (2007a)

Hydrolysis as a Function of pH Potentially hydrolysable

Remarks	The functional group chemistry of the notified substance indicates that it may slowly hydrolyse at pH 4. However, the rate of this process will be limited by the low water solubility of the notified substance.
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Partition Coefficient (n-octanol/water) log P_{ow} > 6.5 at 20°C

Method	OECD TG 117 Partition Coefficient (n-octanol/water), High Performance Liquid Chromatography (HPLC) Method.
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Remarks	The water-oil partition coefficient of the notified substance was estimated from the retention times for 7 reference substances eluted from a reverse-phase column with a 60:40 mixture of tetrahydrofuran with water. The notified substance has a high-affinity for the C ₁₈ -modified solid-phase of this column and was only eluted with 100% tetrahydrofuran. The water-oil partition coefficient of the notified substance was therefore estimated as a lower limit based on the retention time for the reference substance with the highest affinity for this solid-phase under the isocratic elution conditions employed for calibration (DDT, log K _{ow} = 6.5).
Test Facility	Safepharm Laboratories (2007a)

Adsorption/Desorption log K_{oc} > 5.63 at 20°C

Method	OECD TG 121 Estimation of the Adsorption Coefficient (K _{oc}) on Soil and Sewage Sludge using High Performance Liquid Chromatography (HPLC)
Remarks	The adsorption coefficient for the notified substance is a lower limit, which is based on the retention time for the reference compound with the highest affinity for the solid-phase of the column determined under standard chromatographic conditions (DDT, log K _{oc} = 5.63). As for the determination of the n-octanol/water partition constant, the notified substance has a high-affinity for the solid-phase of the column employed and was only eluted with an eluent comprising 100% tetrahydrofuran.
Test Facility	Safepharm Laboratories (2007a)

Dissociation Constant Not ionised in the environmental pH range

Remarks	The notified substance does not contain functional groups that will dissociate in the environmental pH range 4–9. The notified substance will not be ionised under these conditions.
Test Facility	Safepharm Laboratories (2007a)

Flammability (solids) Not highly flammable.

Method	EC Directive 92/69/EEC A.10 Flammability (Solids).
Remarks	The flammability was determined by measuring the burning rate of test material prepared as a 'rope' of set dimensions. The time take to propagate the 200 mm was recorded. The rope ignited and burnt with a yellow flame, which produced grey smoke and left black/brown charred remains. Combustion was propagated over 200 mm in 48 minutes 26 seconds. The test material has been determined to be not highly flammable, as it did not propagate combustion over the 200 mm of the preliminary screening test in under 4 minutes.
Test Facility	Safepharm Laboratories (2007b)

Autoignition Temperature 390 ± 5°C °C

Method	92/69/EEC A.15 Auto-Ignition Temperature (Liquids and Gases).
Remarks	Determined by heating aliquots of the test material in a flask and observing for any ignition. The test flask was heated in a flask heater and aliquots of test material (tested as received) were dropped into the flask and observed for signs of ignition over 300 second period. The procedure was repeated, varying the sample size, as necessary, until the lowest temperature at which ignition, if any, occurred within 300 seconds of insertion, was determined.
Test Facility	Safepharm Laboratories (2007b)

Explosive Properties Not likely to be explosive.

Method	EC Directive 92/69/EEC A.14 Explosive Properties.
Remarks	Based on the chemical structures of the main components of the test material, the result for the explosive properties has been predicted to be negative.
Test Facility	Safepharm Laboratories (2007b)

Oxidising Properties Not determined.

Method	EC Directive 92/69/EEC A.17 Oxidizing Properties (Solids).
Remarks	Based on the chemical structure of the test substance, a negative result is predicted.
Test Facility	Safepharma Laboratories (2007b)

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