



**POLLUTION PREVENTION AND CONTROL ACT 1999
Pollution Prevention And Control (England and Wales)
Regulations 2000
PERMIT OF PROCESS**

THIS IS TO CERTIFY THAT the surface cleaning of metals

at: **Preci-Spark Ltd, Morley Street, Loughborough. LE11 1EW**

National Grid Ref: SK 543 202

has been duly permitted in accordance with Regulation 10 of the Pollution Prevention and control (England and Wales) Regulations 2000 subject to the conditions outlined in this document.

Name of Operator: Preci-Spark Ltd

Registered Office Preci-spark Ltd, Chapel Street, Syston, Leicestershire

This Permit shall apply only to the premises occupied by the applicant, as specified and described in the Application for Permit submitted to the Borough of Charnwood. This Permit, consisting of 18 pages, shall be subject to replacement, variation or amendment, as may be considered appropriate by the Borough of Charnwood at any time, according to provisions of Regulations 12, 15, and 17 of the Pollution Prevention and Control (England and Wales) Regulations 2000

The conditions contained herein shall apply from the date of the Permit unless otherwise stated.

Signed on behalf of Charnwood Borough Council

.....Dated 8 May 2008...

Ann Green, Specialist Environmental Health Officer
(Delegated officer for the purpose)

Counter-signed.....

Directorate of Strategic Housing and Health, Environmental Protection,
Southfields, Southfield Road, Loughborough LE11 2TX

Introductory note

This introductory note does not form a part of the permit

The following Permit is issued under Regulation 10 of the Pollution Prevention and Control (England and Wales) Regulations 2007 (S.I.2000 No 1973), as amended, (“the PPC Regulations”) to operate an installation carrying out one or more of the activities listed in part B to Schedule I of the PPC Regulations, to the extent authorised by the Permit:

Section 7 of Schedule I

"Any activity using organic solvents to remove contamination from the surface of metal."

The Permit includes conditions that have to be complied with. It should be noted that aspects of the operation of the installation which are not regulated by conditions of the Permit are subject to the condition implied by Regulation 12(10) of the PPC Regulations, i.e. the Operator shall use the best available techniques for preventing or, where that is not practicable, reducing emissions from the installation. Techniques include both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned.

Note that the Permit requires the submission of certain information to the Local Authority (LA). In addition, the LA has the power to seek further information at any time under regulation 28 to the PPC Regulations provided that it acts reasonably.

Public Registers

Considerable information relating to Permits including the Application is available on public registers in accordance with the requirements of the PPC Regulations. Certain information may be withheld from public registers where it is commercially confidential or contrary to national security.

Variations to the Permit

This Permit may be varied in the future (by the LA serving a Variation Notice on the Operator). If the Operator itself wants any of the Conditions of the Permit to be changed, it must at least 14 days before making the change, notify the regulator in writing. The notification must contain a description of the proposed change. In this condition “Change in Operation” means a change in the nature or functioning, or an extension, of the installation, which may have consequences for the environment. The Status Log within the Introductory Note to any such Variation Notice will include summary details of this Permit, variations issued up to that point in time and state whether a consolidated version of the Permit has been issued.

Surrender of the Permit

Where the Operator intends to cease the operation of an installation (in whole or in part) the regulator should be informed in writing, such notification must include the information specified in regulation 20(3) of the PPC regulations.

Transfer of the Permit or part of the Permit

Before the Permit can be wholly or partially transferred to another person, an Application to transfer the Permit has to be made jointly by the existing and proposed holders. A transfer will be allowed unless the LA considers that the proposed holder will not be the person who will have control over the operation of the installation or will not comply with the conditions of the transferred Permit.

Talking to us

Please quote the Permit Number if you contact the LA about this Permit.

To give a Notification under Condition 16, the Operator should use the telephone number 01509 634636 or any other number notified in writing to the Operator by the LA for that purpose.

Status Log

<i>Detail</i>	<i>Date</i>	<i>Comment</i>
Application 135	Received 28 February 2008	Duley Made 3 March 2008
Permit determined	2008	Further discussions needed on control of Trike
Permit issued	8 May 2008	

Process Description

The main features of the installation are as follows:

Purpose

The purpose of the process is the degreasing of aero-engine components to ensure a high standard of cleanliness so as to avoid adverse effects to the engines. The components are all nickel based metal alloys and the sizes vary from small plates 25mm long through to rings 900mm in diameter. The process involves the degreasing of metal by immersion into hot vapours of trichloroethylene (Trike).

Trichloroethylene has been identified as a risk phrase substance. The annual quantity of solvent consumed during the surface cleaning process currently exceeds 1 tonnes in any 12-month period and therefore constitute a single SED activity.

Plant Detail

The site is located on Morley Street in Loughborough (shown in red on Plan 01/132). It is bordered by residential premise on two sides of the site.

Trichloroethylene is delivered directly into the gas fired vapour degreasing tank located in the factory shop area (shown in red on site plan 02/135).

Plant Operation

Degreasing is carried out by immersion of the components into the hot vapour degreasing tank by the aid of an electric hoist. Chilled water rings and safety thermostats, linked to an electric control unit on the tank, control the containment of the vapour.

The tank is provided with rim extraction with additional extraction ventilation provided in the surrounding area.

Spent Trichloroethylene is drained from the degreasing tank every 12 months and stored in sealed drums in the external storage area (shown in blue on site plan 2/135).

End of Introductory Note.

Preci-Spark Ltd, Morley Street, Loughborough.

The above named company is permitted to operate the activities and /or associated activities as specified in table I below:-

Table I		
Activities listed in Schedule I of PPC Regulations/associated activity	Description of specified activity	Limits of specified activity
Section 7 of Schedule I and Annex II of the Solvent Emission directive	Surface Cleaning Activities	Any activity using organic solvents to remove contamination from the surface of metal.

Subject to compliance with the following conditions:

Permit conditions **Emission Limits and Controls**

VOC Emissions

- The following VOC emission limit shall apply.

VOC in waste gases	Emissions Limit / Requirement	Fugitive Emission Values	Monitoring
From the lip extraction exhaust of the degreasing tank	20mg/Nm ³ Expressed as total mass of individual risk phrase material	15% of solvent input	Annual Manual extractive testing. See paragraphs 5.16, 5.17, 5.18, 5.19, 5.20 and SED Box 8 of PG6/45(04)

VOC Emissions- Solvent Management Plan

- The operator shall produce a Solvent Management Plan (SMP) that shall be updated annually. The solvent Management Plan shall be produced using the definitions and calculations set out in PG 6/45 (04) and reproduced in Schedule A of this permit and

shall be submitted to the local authority by the 30 April each year. The SMP shall be used to determine the actual annual solvent emissions, which should be in the form of a mass balance calculation of your annual actual consumption of solvents.

Risk Phrase Materials

3. No other designated risk phrase materials with risk phrases R45, R46, R49, R60 and R61 shall be introduced into this process/ activity without the prior notification and permission of an Authorised Officer from Charnwood Borough Council.

Other Provisions

Monitoring, investigation and recording

4. The operator shall keep a record (log book) of all inspections, tests, monitoring including all non-continuous monitoring and visual assessments. The log book and any continuous monitor charts or records shall be kept on site and retained by the operator for a minimum of two years and made available for examination by an authorised officer of Charnwood Borough Council.
5. The Operator shall notify Charnwood Borough Council at least 7 days before any periodic monitoring exercise to determine compliance with the emission limit values. The Operator shall state the provisional time and date of monitoring, pollutants to be tested and the methods to be used.
6. The results of all non-continuous monitoring shall be forwarded to Charnwood Borough Council within 8 weeks of the completion of monitoring activities
7. In the event of any adverse results from any monitoring activity in relation to the limit specified in condition 1, the Operator shall investigate as soon as the results are obtained/received. The Operator shall:
 - Identify the cause and take corrective action
 - Record (in the log book) as much detail as possible regarding the cause and extent of the problems
 - Record the action taken by the Operator to rectify the situation
 - Re-test to demonstrate compliance as soon as possible and
 - Notify the Regulator

Visible and Odorous Emissions

8. All emissions to air, other than steam or water vapour, shall be colourless and free from persistent mist.
 9. All emissions to air shall be free from persistent fume and free from droplets.
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10. All emissions shall be free from offensive odour outside the process boundary as perceived by Charnwood Borough Council (marked in yellow on plan 02/135).

Abnormal events

11. Where abnormal emissions, malfunctions or breakdown leading to significant escape of odour or fumes occur the Operator shall.
- Investigate immediately and undertake corrective action
 - Adjust the process or activity to minimise those emissions and
 - Promptly record the events and actions taken in the log book (within one working day)
12. The Regulator shall be informed immediately by telephone where:
- The emission is likely to have an effect on the local community.
13. In cases where emissions are likely to cause an immediate danger to human health, the operation of the activity shall be suspended.

Control Techniques

VOC and odour control - storage

14. The receipt, handling and storage of organic solvents shall be carried out so as to minimise the emission of volatile organic compounds to air.
15. The external storage tank used for containing Trike shall be back vented to the delivery tank during filling operations to prevent offensive odour beyond the site boundary.
16. Spillage containment kerbs shall be provided to areas set aside for the storage of drums containing used Trike. Spillage containment kerbs shall also be provided around the bulk storage tank. The bunding shall:
- a) Completely surround the bulk liquid storage tanks
 - b) Be impervious and resistant to the liquids in storage and
 - c) Be capable of holding 110% of the capacity of the largest storage tank.
17. Delivery connections to the bulk storage tank shall be located within the bunded area.
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VOC Control - handling

18. All degreasing operations shall be carried out in the degreasing tank (detailed on site layout plan 2/135).
19. All vessels or containers containing materials with an organic solvent content shall be lidded or enclosed when not in use.

VOC Control – location and design of surface cleaning equipment

20. The operator shall periodically review (at least once every 2 years) surface cleaning operations at the installation to identify opportunities for reducing VOC emissions. The results of this review, justification for the choices made together with timescales to implement any changes identified, shall be submitted to Charnwood Borough Council.
 21. All degreasing operations using chlorinated organic solvent shall be carried out in the purpose built degreasing unit. These activities shall be sited away from draughts, isolated from hot surfaces and welding operations, situated in a 'no smoking' area and shielded if necessary to reduce losses through air turbulence.
 22. Where practicable cleaning fluids which do not contain organic solvent or cleaning fluids with significantly less volatile organic solvent shall be used.
 23. The operator shall clearly demonstrate that all open-topped vapour degreasing machines comply with the emission requirements of PG6/45. All vapour degreasing machines, which do not comply, shall be modified or replaced. Timescales to complete modifications or replacements shall be prepared and agreed with an Authorised officer of Charnwood Borough Council.
 24. Solvent heating and degreasing operations shall not be undertaken without the extraction systems fitted and working.
 25. The heater units to the degreasing tanks shall not be operated without the water cooling coils and their associated chiller units fitted and working.
 26. The operator shall provide a lid to the degreasing tank, which shall be kept in place at all times when the tank is not in use.
 27. The freeboard of the degreasing tank shall be 1.4 metres.
 28. An automatic hoist system shall be used for loading material into the degreasing tank. The hoist shall be governed to a working speed no greater than 3 metres per minute in the vertical plane and 6 metres per minute in the horizontal plane. The cleaned
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material shall then be held in the free board zone to allow evaporation of residual solvents.

29. The programming, loading and use of the vapour degreasing machine, shall be controlled monitored and reviewed to minimise the number of surface cleaning operations.
30. After degreasing activities have been completed the heaters within the degreasing vessel shall be switched off, whilst the cooling coils and ventilation system is left running for a further 30 minutes.
31. All waste solvent collected during the cleaning of the degreasing tank shall be stored in sealed containers.

VOC Control - Operational

32. Devise and implement a programme to monitor and record the consumption of organic solvent used in surface cleaning, to identify ways of minimising the use of organic solvent.

VOC Control -Waste

33. All potentially odorous waste materials shall be handled in accordance with a written procedure a copy of which shall be made available to the Local authority upon request.
 34. The operator shall ensure that all containers used for the storage of organic solvent and organic solvent contaminated materials shall be self-closing.
 35. Prior to disposal, used wipes or other items contaminated with organic solvent shall be placed in a suitably labelled metal bin fitted with a self-closing lid, with the lid securely fastened at all times other than when in use. The bins shall be emptied at least daily to prevent a fire hazard or spontaneous combustion.
 36. The location of open air storage areas for nominally empty drums and containers shall be carefully selected to meet the requirement of condition 10 and should include being:
 - sited on a suitably impervious floor
 - away from any drains which may become contaminated with residues as a result of spillage or leakage.
 - away from sources of heat
 - with access restricted to only appropriately trained staff
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General Control Techniques

Dust and spillage control

37. A supply of absorbent material should be held on site for use in the event of spillage of organic solvents. Such spillages should be cleaned up immediately and the collected material should be held in an enclosed container pending removal from site.

Air Quality

Dispersion and dilution from stacks

38. The minimum height for process vents serving local exhaust ventilation from plant or areas associated with the permitted process shall be 3m above the roof ridge height
39. Process vents shall not be fitted with any restriction at the final opening, for example, a plate, cap or cowl. All discharge points should be vertically upwards.
40. Stacks and ductwork shall be cleaned regularly to prevent the accumulation of material and inspected at least once every 12 months. Details of inspections shall be recorded in the log book and be made available for examination by an authorised officer of Charnwood Borough Council upon request.
41. All chimneys and ducts shall be leak proof and insulated to minimise cooling of waste gases.

Management

Training

42. Staff at all levels shall receive the necessary formal training and instructions in their duties relating to control of the process and emissions to air. Particular emphasis shall be given to;
- Awareness of their responsibilities under this permit in dealing with conditions likely to give rise to VOC emissions, such as in the event of spillage;
 - Minimising emission on start up and shut down
 - Action to minimise emissions during abnormal conditions
43. A statement of training requirements for each operational post and a training record shall be kept for each person whose actions may have an impact on the environment. These documents shall be kept available for inspection by authorised Officers from Charnwood Borough Council.
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Management Techniques

44. Effective preventative maintenance shall be employed on all aspects of the process including all plant, buildings and the equipment concerned with the control of emissions to air. In particular:
- A Written maintenance, inspection and replacement programme for all aspects of the process shall be prepared, implemented and maintained and it shall be made available for inspection by authorised officers from Charnwood Borough Council.
 - A written record of all maintenance carried out shall be made available for the inspection by the regulator.
45. Essential spares and consumables, particularly those subject to continual wear, shall be held on site when the supplier is not able to provide items from stock within one working day, so that spray booth breakdowns can be rectified rapidly.

Appropriate Management system

46. The activity shall operate in accordance with an effective management system which has been certified to the International Environment Management Standard ISO140001: 2004. This shall include a commitment to achieving compliance with the permit conditions and ensuring SED considerations are taken account of in the day-to-day running of the process. It may include establishing objectives for improved environmental performance by setting targets, measuring progress and revising the objectives according to results. The system shall include managing risks under normal operating conditions and in accident and emergency situations.

Upgrading

47. The Operator shall complete the upgrading specified in Table 2 below by the date specified in that table, and shall send written notification of the date of completion of each requirement to Charnwood Borough Council within 14 days of the completion of each such requirement.

Table 2. Upgrading Programme Requirements		
Reference	Requirements	Monitoring/timescales
UPI	Designated risk phrase materials with risk phrases R45, R46, R49, R60, R61 shall be replaced, as set out below	

	<p>Replace as far as possible by less harmful substances or preparations:</p> <p>Designate Risk Phrase Material as identified in the permit application as;</p> <p>Trike – R45 Degreasing of metal</p>	<p>Within the shortest possible time and by the latest by the timescale submitted in the appraisal required and approved under UP2</p>
UP2	<p>A written appraisal shall be submitted to Charnwood Borough Council for approval detailing the feasibility of substituting the risk phrase substances listed under UPI above. The appraisal shall contain dates for the substitution of individual substances. Where no substitution is feasible the Operator shall provide justification for the continued use. The appraisal shall be implemented by the Operator from the date of approval by Charnwood Borough Council</p>	<p>By 30 June 2008 and thereafter at 2 monthly intervals</p>
UP3	<p>A written appraisal shall be submitted to Charnwood Borough Council for approval detailing the feasibility of undertaken surface cleaning activities in a totally enclosed hermetically sealed cleaning machine that will ensure compliance with the emission limits values detailed in condition I of this permit .</p>	<p>By 30 June 2008 and thereafter at 2 monthly intervals</p>
UP4	<p>The operator shall undertake a review of the use of the enclosed degreasing machines installed at their other sites and shall provide an options appraisal for their use at the Morely Street site. The operator shall also submit written procedures for the use of such machines detailing:</p> <ul style="list-style-type: none"> • Under what conditions the machnies will operate • Measures for assessing the performance of the machine to ensure emission and fugitive emission limits are being complied with. • Mearuses in place and copies of 	<p>By 30 June 2008 and thereafter at 2 monthly intervals</p>

	<p>records to demonstrate that the annual use of Trike is below 1 tonne</p> <ul style="list-style-type: none"> • Procedures for reviewing the use of the degreasing machines and implementing alternatives where deemed necessary <p>The results of this review shall include a BAT justification of the choices made. A summary of the BAT assessment shall be submitted to the LA together with a timescale to implement any necessary changes</p>	
UP5	The operator shall provide details as to the procedures used to assess the performance of the proposed degreasing machines and shall submit proposals for implementing operational and maintenance controls to ensure effective control of emissions is sustained.	By 30 June 2008 and thereafter at 2 monthly intervals
UP6	The operator shall provide details of any management systems that are in place to minimise the impact of fugitive releases from the continued use of the current degreasing tank and what corrective action will be taken should any problems with the tank be identified.	By 30 June 2008 and thereafter at 2 monthly intervals

End of conditions

Schedule A

Determination of solvent consumption (reproduced from PG 6/45 (04))

A determination of the organic solvent consumption, the total mass of organic solvents inputs minus any solvents sent for reuse/recovery offsite, should be made and submitted to Charnwood Borough council annually, preferably to coincide with the operators stocktaking

requirements, in the form of a mass balance in order to determine the annual actual consumption of organic solvents (c)

Where: $C = I_1 - O_8$

I_1 is the total quantity of organic solvent, or their quantity in preparations purchased which are used as input into the activity.

A calculation of the purchased organic solvent Input (I_1) to the process/activity, is found by recording:

- (i) The mass of organic solvent contained in coatings, diluents and cleaners in the initial stock (IS) at the start of the accounting period; plus
- (ii) The mass of organic solvent contained in coatings, diluents and cleaners in the purchased stock (PS) during the accounting period.
- (iii) Minus the mass of organic solvent contained in coatings, diluents and cleaners in the final stock (FS) at the end of the accounting period.

Total Organic Solvent Input (I_1) = **IS + PS - FS**

Solvent Management Plan

The solvent Management Plan provides definition and calculation to demonstrate compliance with the VOC requirements of this note. The use of standard definitions and calculations also ensures consistency of VOC compliance across the installations with an industrial sector.

The definitions provided must be used in all calculations relating to the Solvent Management Plan (SMP) (Figure 5.1)

- For SED installations using the emission and fugitive limits, the SMP should be used for determining the fugitive emissions (SED Box9). Once completed it need not be done until the equipment is modified.

Definitions

The following definitions provide a framework for the mass balance calculations used in determining compliance.

Inputs of Organic solvent in the time frame over which the mass balance is being calculated (I).

- I₁ The quantity of organic solvents or their quantity in preparations purchased which are used as input into the process/activity (including organic solvents used in the cleaning).
- I₂ The quantity of organic solvents or their quantity in preparations recovered and reused as solvent input into the process/activity. (The recycled solvent is counted every time it is used to carry out the activity.)

Outputs of Organic solvents in the time frame over which the mass balance is being calculated (O)

- O₁ Is Organic solvent in waste gases.
- O₂ Is Organic solvent lost in water, if appropriate taking into account waste water treatment when calculating O₅
- O₃ Is Organic solvent remaining as a contamination or residue in products output from the process/activity..
- O₄ Is Organic solvent released uncaptured to air, via doors and windows
- O₅ Is Organic solvent destroyed by abatement/treatment
- O₆ Is Organic solvent contained in collected waste
- O₇ Is Organic solvent contained in preparations, which are sold or are intended to be sold as commercially valuable product.
- O₈ Is Organic solvent contained in preparations recovered for reuse but not as input into the process/activity, as long as not counted under O₇ .
- O₉ Is Organic solvent released in other ways i.e. spillages, leaks and ground contamination.
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Appendix I

Site Location Plan (01/135)

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Appendix 2

Site Layout (2/135)

**Appendix 3 Determination of Solvent Consumption, work sheet
for PG6/45 (04)**

Solvent Management Plan		
Installation and address	For year (provide dates for accounting period)	Name and position of respondent
Consumption of organic solvent (C) Where C= I1-O8	Note – all data should be added in kilogrammes	Contact Tel No
I ₁ is the total quantity of organic solvents or their quantity in preparations purchased which are used as input into the activity		
a) the mass of organic solvent contained in coatings, diluents and cleaners in the initial stock (IS) at the start of the accounting period.(in Kg)	b) the mass of organic solvent contained in coatings, diluents and cleaners in the purchased stock (PS)during the accounting period. (in Kg)	c) minus the mass of organic solvent contained in coatings, diluents and cleaners in the final stock(FS) at the end of the accounting period.(in Kg)
Total Organic Solvent Input (I ₁)=IS+PS-FS(in Kg)		
Organic solvents contained in preparations recovered for reuse(ie. solvent taken away by recycling company)(but not as input into the process/activity) (O ₈) (in Kg)		
Actual consumption of organic solvent =		
Organic solvents contained in waste gases from stacks (O ₁)		
Organic solvents destroyed by abatement (O ₅)		
Organic solvents contained in collected solid waste (ie. solvent remaining in tins/on waste rags) (O ₆)		
Organic solvents contained in product (O ₇)		
Organic solvents used in recycling (O ₈)		
Fugitive emission = (I ₁ – O ₁ -O ₅ -O ₆ -O ₇ -O ₈)		

EXPLANATORY NOTES

These notes do not comprise part of Permit Serial No.135 but contain guidance relevant to the Permit.

1. You should note that Regulation 12(10) of the Regulations provides that in relation to any aspect of the process not regulated by conditions 1 to 46 the best available techniques ('BAT') shall be used for the purpose of preventing or, where that is not practicable, reducing emissions into the air.

Section 3(7) of the Regulations describes 'BAT' as meaning the most effective and advanced stage in the development of activities and their methods of operation which indicates the practical suitability of particular techniques for providing in principle the basis for emission limit values designed to prevent and, where that is not practicable, generally to reduce emissions and the impact on the environment as a whole.

2. This Permit is issued under the Environmental Permitting (England and Wales) Regulations 2007. The responsibility you have under legislation for Health, Safety and Welfare in the workplace remains in force. In addition, the Permit does not relieve you of your obligations to obtain planning permission, hazardous substances consent, discharge consent from the Environment Agency Building Regulations approval, or a Waste Disposal Licence.
3. Any proposed 'change in operation' in the process (within the meaning of Regulation 2(1)) shall be notified to Charnwood Borough Council as required by Section 16(1) of the Regulations.
4. Anyone who is aggrieved by the conditions attached to a Permit can appeal to the Secretary of State for the Environment, Food and Rural Affairs. Appeals must be made in accordance with the requirements of Regulation 27 and Schedule 8 of the PPC regulations. The address is as follows:

The Planning Inspectorate
Environmental Appeals Administration
Room 4/19 Eagle Wing
Temple Quay House, 2 The Square,
Temple Quay, Bristol, S1 6PN

Please note: an appeal brought in relation to the conditions in a permit will not suspend the effect of the conditions appealed against: the conditions must still be complied with.

In determining an appeal against one or more conditions, the Act allows the Secretary of State in addition to quash any of the other conditions not subject to the appeal and to direct the local authority either to vary any of these other conditions or to add new conditions.