PDA Plastics LTD

Environmental Permit Application (Bespoke Permit)

PDA Plastics Ltd.

Commissioners Rd,

Rochester,

Kent.

ME2 4EB

Pre application No. EPR/LB3206LE/A001

Document Control Table

Title	Environmental Permit Application
Document Title	Environmental Permit Application Report
Document issue No.	1
Document Issue Date	6th September 2022

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1 Introduction

1.1 This Permit Application is to allow the operation of a recycling facility for the storage and treatment of PVC window frames at PDA Plastics Ltd (PDA), Commissioners Rd, Rochester, Kent. ME2 4EB (Site)

1.2 This application comprises a bespoke environmental permit application for the “physical treatment of non-hazardous waste”. The proposed waste activities include the storage and treatment of PVC window frames. Basic pre-application advice (Pre-App Ref.EPR/LB3206LE/A001 has been received from the Environment Agency,

1.3 The Site proposes to accept up to 15,000 tonnes of PVC-based window frame waste per year and store up to 500 tonnes of waste on Site at any one time. Throughput per day will be 75 tonnes per day or less.

1.3.1 Habitats/Protected Species

Please refer to your email dated 22/04/2022 from Matt Robinson addressed David Bonfield.

1.4 The pre-application advice states that a Noise Management Plan (NMP) will be required as part of this application. A copy of the NMP is provided as Appendix 4. The NMP includes a Noise Impact Assessment (NIA) which assesses the risk of noise posed by the recycling facility. A copy of the NIA is appended to the NMP. Refer to Appendix 3

1.5 Although the waste stream is considered as low risk PDA have decided to have a Fire Prevention Plan prepared. A copy of the Fire Prevention Plan is provided as Appendix 4 SMP 013. Doc No.009.

1.6 A Dust Management Plan is also submitted as part of this application. Information has been prepared to document how the risk of dust emissions will be prevented, minimised and managed to prevent dust emissions from the Site. A copy of the Dust Management Plan is provided as Appendix 3.

1.7 The Site is currently operating under the following waste exemptions:

• S2 ‘Storing waste in a secure place.

• T4 ‘Preparatory treatments, such as, bailing, sorting, shredding’.

• T9 ‘Exemption for the treatment of scrap metal for handling or recovery’.

1.8 PDA has historically imported, and continue to import PVC-based window frames as waste for treatment under the S2 and T4 Waste Exemptions in accordance with the relevant ‘plastic’ European Waste Catalogue (EWC) waste code (i.e. 020104, 070213, 120105, 150102, 160119, 170203, 191204, 200139).

The Environment Agency stipulate that the PVC-based window frames must be accepted as a mixed-waste code (i.e. 20 03 01 for municipal waste).

It is the intention of PDA to deregister the waste exemptions once the environmental permit (the Permit) is issued to avoid any conflicting restrictions in the issued Permit.

1.9 The above waste exemptions are considered to be appropriate for the activities carried out on the Site. This assumption was based on the PVC window frames being most accurately described using the European Waste Code (EWC) codes for ‘plastic’ i.e. 19 12 04 and 20 01 39.

1.10 The extent of the proposed Permit boundary is shown on Permit Boundary Plan,(Ordinance Survey Map) Drawing No. PDA 4.

1.11 The relevant Environment Agency application forms (Part A, B2, B4 and F1) and information required by these forms are included within this application report.

2. Site location

2.1 The site is located an industrial area which is in an old chalk pit and has a natural sound barrier which naturally reduces the noise from the operation. The site boundary is lined with shipping containers double stacked which also reduces noise from the operation.

Environmental Permit Application

PDA Plastics Ltd (PDA): Poly. PDA Plastics Recycling Facility, PDA Plastics Ltd (PDA), Commissioners Rd, Rochester, Kent. ME2 4EB

3. Non-technical summary **(Doc059)**

Waste Activities

3.1 PDA wishes to regularise the waste activities being carried out on the Site, namely the storage and treatment of PVC window frames.

3.2 PDA propose to accept and treat up to 15,000 tonnes of waste per year. Waste will be predominately treated on the day of receipt.

Storage volumes of waste will not exceed 1,000 tonnes at any one time.

3.3 The proposed Permit boundary is shown on Permit Boundary Plan Drawing No. PDA 4.

3.4 Waste will be stored and treated on the Site. Waste is therefore stored prior to each treatment process and not stored for any significant time once fully treated.

3.5 The following waste treatment activities are carried out on the Site:

- Storage of incoming PVC window frames.
- Storage of handpicked waste (e.g. metal, wood, non-PVC plastics) within specific containers.
- Shredding (to a particle size of <120cm)
- Granulation (to a particle size of <10mm)
- Automated Optical sorting activities
- Physical sorting activities

- Eddy current separator
- Magnetic Separation equipment (separation of waste by removing fine particles of metal via magnets).
- Pulverisation (to a particulate size of <1000um)

3.6 A process flow chart is provided in Figure 1, which shows the proposed treatment process to be carried out on the site.

Appendices

Appendix 1.

Site condition report. Doc No. 058

1.0 SITE DETAILS	
PDA Plastics LTD Commissioners Road Strood Rochester Kent ME2 4ED National grid reference TQ 74496 69627	

Document reference and dates for Site Condition Report at permit application and surrender	Environmental Permit Issue Date pending Site condition report dated 26/10/2022 Site currently running under Waste Exemptions T4 (WEX176313) T9 (WEX157970) S2 (WEX183269)

Document references for site plans (including location and boundaries)	Site location Map. Drawing PDA 4 (Doc018) Site Map. Location of Emergency Equipment PDA 2 (Doc023) Site Map. Activities PDA1 (Doc022) Site Map. Drainage Plan PDA3 (Doc024) Site Map. Site Drainage, First Aid Point, Telephone point, Oil and Chemical Storage PDA5 (Doc061)

2.0 Condition of the land at permit issue	
Environmental setting including: • geology • hydrogeology • surface waters	Environmental Risk Assessment Completed 20/06/2022 (Doc005,Doc006,Doc007) PDA Plastics Ltd is located on the Medway City Estate which is partially surrounded by a chalk face quarry. The site was previously occupied by British Sisalkraft paper mill. The Site ground condition is of solid construction of concrete with some areas laid with Tarmac over the concrete base. There are no surface water drainage points all drainage soaks away to the foul sewer. The site is contained within a wall of storage containers which act as the site boundary. The Site has 2.5 Meter steel gates at the site entrance.
Pollution history including: pollution incidents that may have affected land • historical land-uses and associated contaminants • any visual/olfactory evidence of existing contamination	No information on any pollution incidents has been identified which may have affected the land. Land usage has remained commercial for the last 70 years. No Visual or olfactory evidence of any existing contamination was found on the site during the site walkover.
• evidence of damage to pollution prevention measures	
• Evidence of historic contamination, for example, historical site investigation, assessment, remediation and verification reports (where available)	No records of historical site investigations, reports or remediation were available for this area of the site at the time of completing this Site Condition Report.

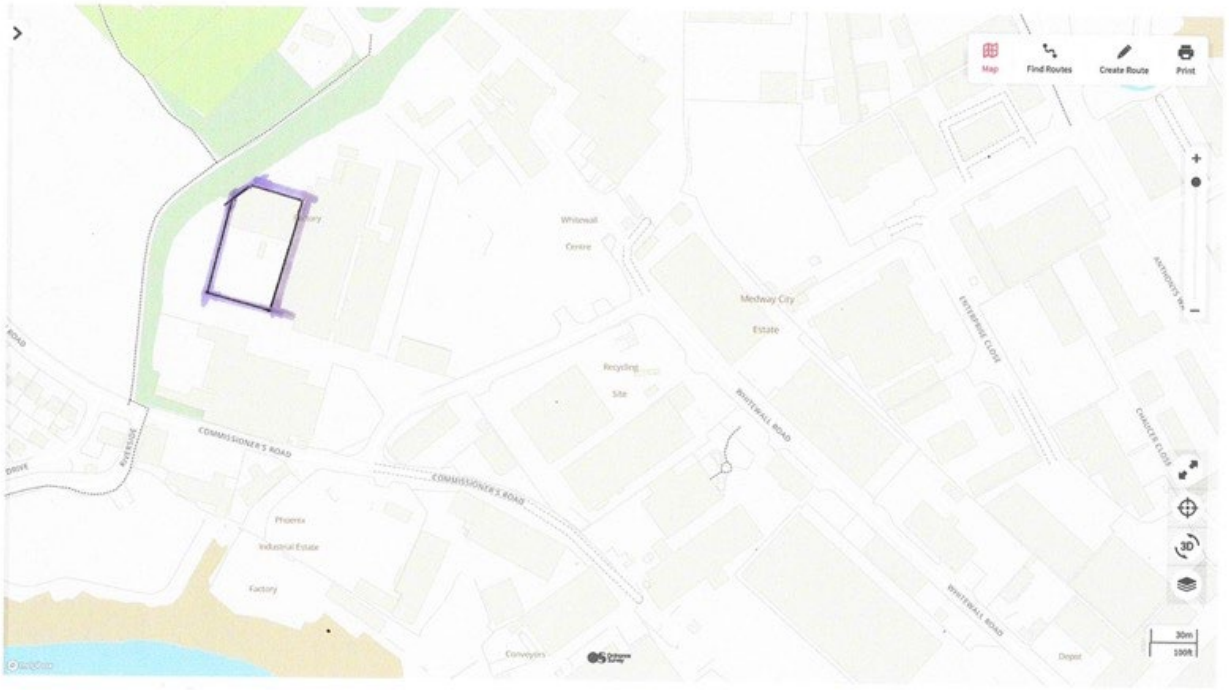
• Baseline soil and groundwater reference data	None completed in 2022

Supporting Information N/A (Not applicable). None available for this site.	

3.0 Permitted activities	
	No permitted activities were taking place. Activities involving the storage and treatment of PVC windows were being carried out on the site. These operations were taking place under a number of Waste Exemptions. Waste exemptions registered for the site are as follows: • T4 'Preparatory treatments, such as, baling, sorting, shredding' • T9 'Recovering Scrap Metal' • S2 'Storing waste in a secure place'
Non-Permitted Activities Undertaken	None identified (Other than those carried out under the waste exemptions).
Document references for: **Environmental Risk Assessment** **Plan Showing Activity Layout**	(Doc005, Doc006, Doc007) Site Map. Activities PDA1 (Doc022)

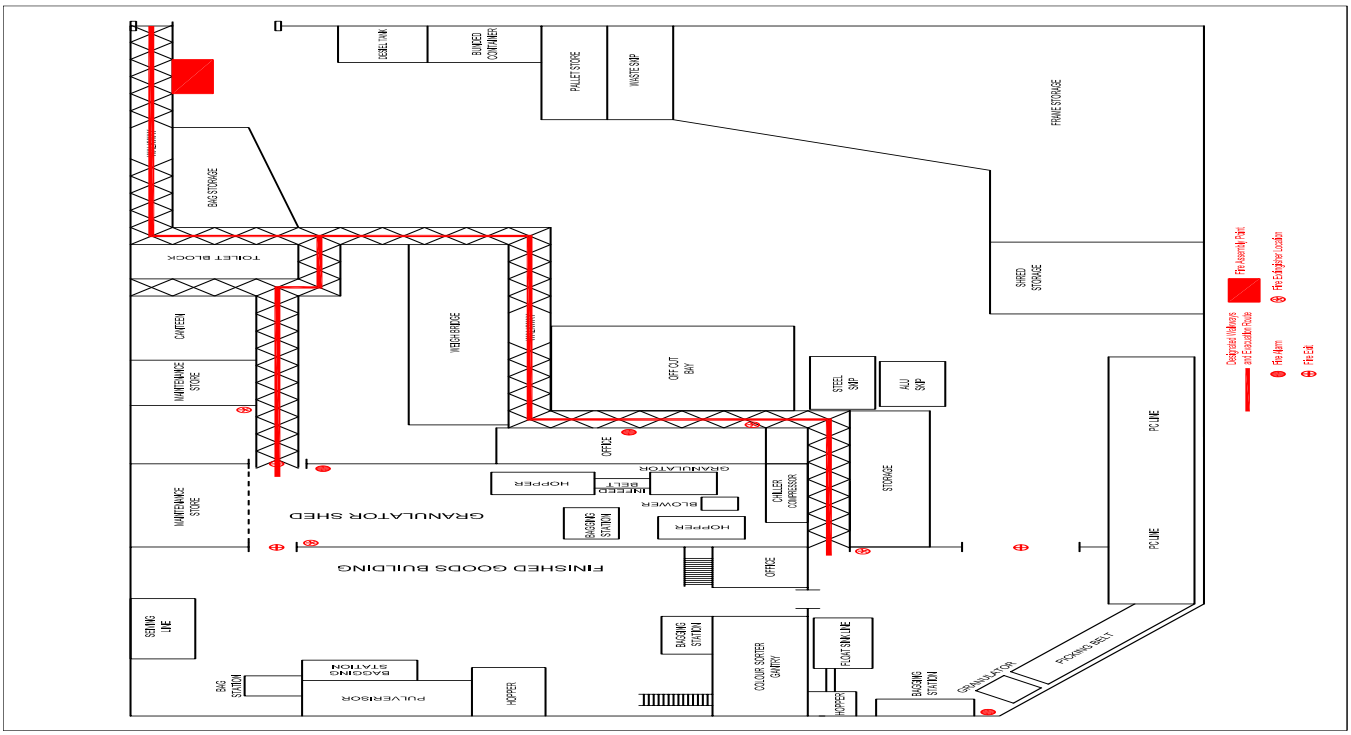
PDA 4

Doc 018.

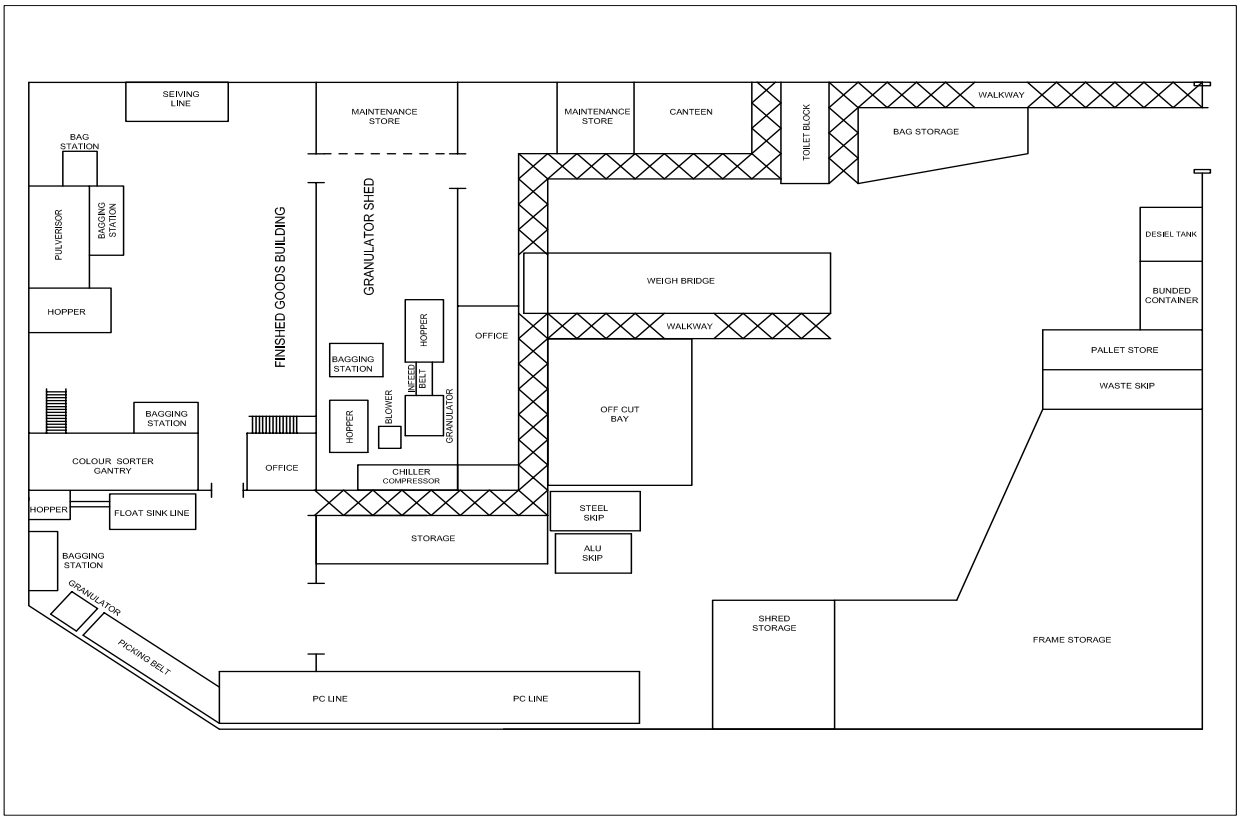


PDA 2

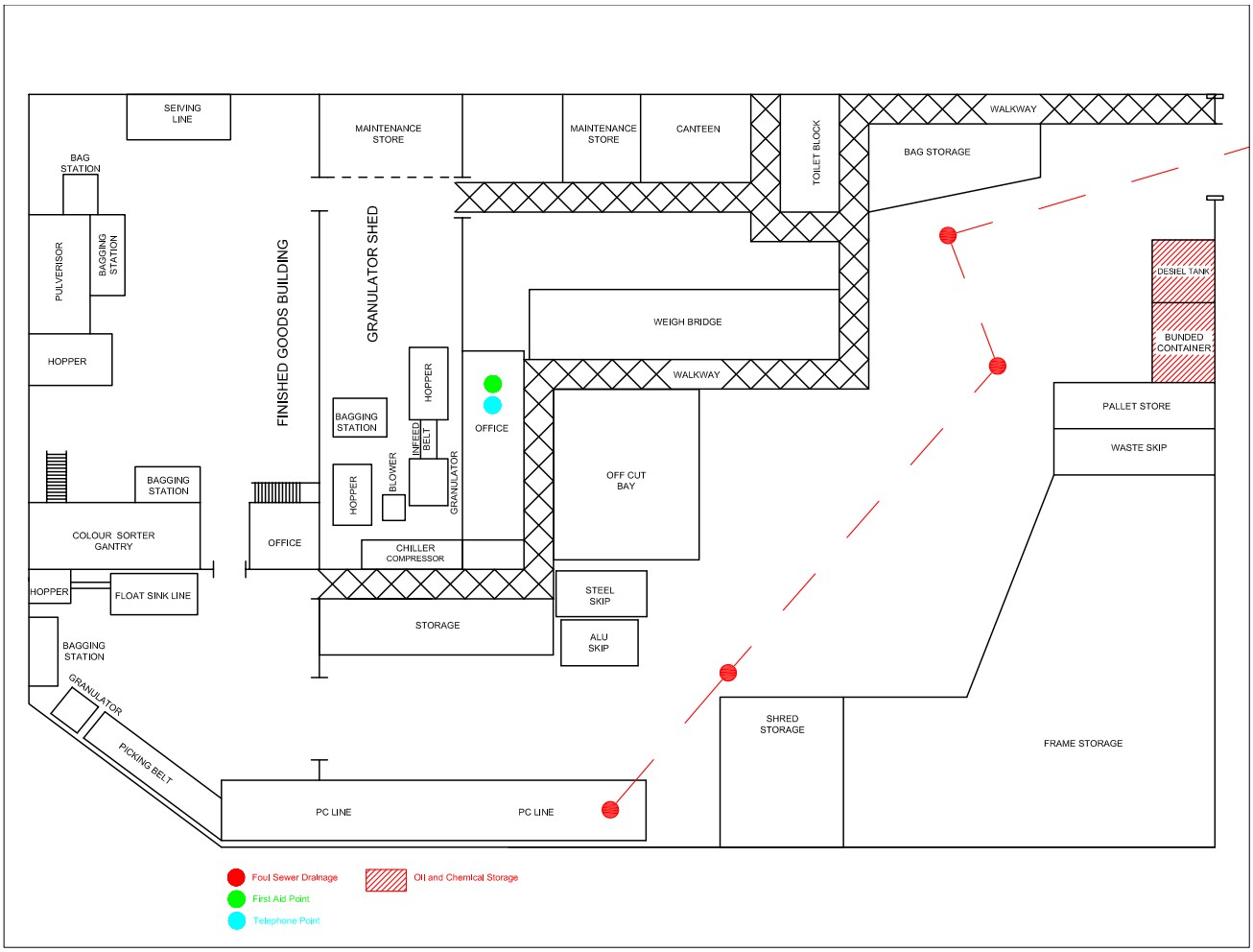
Doc023



PDA 1 Doc022



PDA3 Doc 024


SEIVING LINE
MAINTENANCE STORE
MAINTENANCE STORE
CANTEEN
TOILET BLOCK
WALKWAY
BAG STORAGE
BAG STATION
PULVERISOR
BAGGING STATION
FINISHED GOODS BUILDING
GRANULATOR SHED
DESIEL TANK
BUNDED CONTAINER
HOPPER
WEIGH BRIDGE
WALKWAY
HOPPER
BAGGING STATION
INFEED BELT
OFFICE
PALLET STORE
WASTE SKIP
BAGGING STATION
BLOWER
GRANULATOR
OFF CUT BAY
COLOUR SORTER GANTRY
OFFICE
HOPPER
CHILLER COMPRESSOR
HOPPER
FLOAT SINK LINE
STEEL SKIP
STORAGE
ALU SKIP
BAGGING STATION
GRANULATOR
PICKING BELT
SHRED STORAGE
FRAME STORAGE
PC LINE
PC LINE
Foul Sewer Dralnage
Oil and Chemlcal Storage
First Aid Point
Telephone Point


OIL SELECTIVE SPILL KIT

Appendix 2.

Evidence of Technically Competent Management.

Continuing Competence Certificate

This certificate confirms that

David Bonfield

Has met the relevant requirements of the Continuing Competence scheme for the following award(s) which will remain current for two years from 21/10/2020

TSNH	Transfer - Non Hazardous Waste
TMNH	Treatment - Non Hazardous Waste

Expiry Date: 21/10/2022

Verification date: 05/10/2020

Authorised:

Director of Qualifications and Standards

Learner ID: 28880

Certificate No.: 5170513

Date of Issue: 21/10/2020

CIWM Chief Executive Officer

The Chartered Institution of Wastes Management

00151901

Appendix 3.

Environmental Risk Assessments.

Noise.

This report provides information on the potential sensitive receptors that could be affected by noise and the mitigation measures that the operator will put in place to reduce the risk of noise affecting these sensitive receptors. The Noise Management Plan will contain a Noise Impact Assessment.

SMP 010. Doc No.005. (B4) and Dust Management Control SMP007. Doc No. 045.

WORKPLACE NOISE ASSESSMENT

PDA Plastics LTD

Front RMS Commisioners Road Strood
Rochester
ME2 4ED

Date of assessment: 11th March 2022 Assessment carried out by: Gavin Winter Assessment review date: 11th March 2024 Nominated person (by company): Paul Alexander

Contents

Purpose of Noise Assessment

uPVC recycling can expose employees and others to noise levels above the specified action levels.

Being subjected to loud noise causes deafness and other types of hearing damage. You, as an employer have a duty under The Control of Noise at Work Regulations 2005 to reduce the risk of hearing damage to your employees by controlling exposure to noise.

To carry out this duty, you need to know which employees are at risk and what the level of that risk is. Also, in order to make a plan to assess noise problems, you need to know what is causing the risk (what processes, machines, equipment, etc.).

The main objective of this noise assessment is to:

- Produce a **Prioritised Action Plan** to identify the steps required to reduce the exposure of employees to hazardous levels of noise.
- Determine the daily personal noise exposure [Lex,8h] of those groups of employees who are likely to be exposed at or above the ***Lower exposure Action Value*** (LAV) 80dB(A) and 135dB(C) peak.
- Determine the daily personal noise exposure [Lex,8h] of those groups of employees who are likely

  to be exposed at or above the ***Upper Exposure Action Value*** (UAV) 85dB(A) and 137dB(C) peak.

  These employees **must be provided with health surveillance (hearing checks).**

- Determine the daily personal noise exposure [Lex,8h] of those groups of employees who are likely

  to be exposed at or above the ***Exposure Limit Value*** (ELV) 87dB(A) and 140dB(C) peak. The exposure limit value takes into account any reduction in exposure provided by hearing protection.

  It should be noted that the lower (LAV) and upper (UAV) exposure action values take no account of hearing protection.

  The exposure limit value (ELV) is the maximum permissible exposure at the ear inside the hearing protection (this is usually only an issue for very high noise levels and long shifts).

Description of Premises

PDA Plastics Ltd are a uPVC window and door recycling company. They specialise in uPVC window and door recycling, reducing the need for landfill and minimising waste. Their site is based in Rochester.

They have a large building which is separated into several areas where the windows go through the recycling process. The process starts in the yard outside and then goes on to the shredder, magnet shake table, ECS, granulator, float assist machine, colour separator, pulveriser and then granulator. Employees work at

different points on the line. There is an issue with the ECS in that it is vibrating abnormally which is causing additional noise that should be reduced by repairing the machine. Employees work from 7am until 4pm.

Measurement Procedure

The noise assessment was carried out using a calibrated instrument conforming to BS EN 61672-1:2003 Class 2 to measure sound pressure levels. Details of the noise measurement equipment used for this assessment are provided at the end of this report. The equipment was calibrated, and battery checks were made at the start of the noise assessment to confirm the equipment was performing to specification. Calibration was checked again at the end of the noise assessment.

All measurement results are short–term instantaneous sound pressure levels, "equivalent continuous sound levels" (L_{eq}) in dB(A) or "peak" noise levels (L_{Cpeak}) - see the **Glossary** of acoustic terms. Measurements were taken at typical operator ear positions (100mm from the side of each ear) for both ears (as necessary) and the higher level noted. For unattended plant, measurements were made at one metre from the machine, and area noise levels were also noted at irregularly manned locations.

Findings

Hearing Protection
Has it been issued? Yes. *Was it being worn?* *On the day of the assessment all employees appeared to wear hearing protection properly and when appropriate.* *What type/s are provided?* *Employees have the option of over ear defenders. Ensure employees are able to have any type of hearing protection that they feel comfortable in.* *Is it checked by employees to ensure it's in good condition?* *Employees are encouraged to be mindful of the condition of their ear protection and should any be found to have deteriorated then this is immediately replaced.* *Do management check it is being worn?* *Anybody seen not to be wearing hearing protection when necessary is challenged.*

Hearing Protection Zones & Site Plan

Are there any hearing protection zones? Yes. See site plan.

Health Surveillance
Are hearing tests carried out? If so, how often? *Health surveillance in the form of regular audiometric testing (hearing tests) is provided annually.* *Are new starters given hearing tests?* As above. Are employees given a hearing test at the end of their employment? No. Consider, when possible, having the employee take a final hearing test at the end of their employment so that a record is kept of the condition of their hearing when they left you.
Information, Instruction and Training
Is information, instruction and training given on the dangers of high noise and the use and maintenance of hearing protection? Yes. Employees have some training upon induction about how and when to wear hearing protection, and the consequences of not wearing hearing protection is noisy areas. Consider handing out the HSE pocket booklet Don't Lose Your Hearing.

Signage *Were signs displayed and visible? No.*

Agency Staff and Contractors. *Are agency staff used? No.*

Equipment/Activity Noise Levels

As much machinery as possible was operating under normal working conditions during the visit (except where noted). Note that noise levels can vary with time due to changes in working patterns, differences in set–up/speeds, ageing of machine components etc. — hence the regulatory requirement for a review of the need for a re–assessment at least every 2 years and updates whenever changes occur that may affect noise levels.

Operator noise exposure depends both on the noise level and on the time spent at each location. In order to ensure that no employee is at risk of exceeding the daily exposure action values, no matter how long they spend in an area (up to a standard 8-hour day), the demarcation of potential hazard areas and machines is based on short–term L_{eq} levels rather than the $L_{EP,d}$ (dose).

The daily personal exposure, $L_{EP,d}$ is a measure of the total sound energy received in the working day 'normalised' to an 8-hour day. When the working day varies significantly from a standard 8-hour day, say for 10 or 12 hour shifts, an adjustment is made in the calculation of daily exposure (noise/time trade-off). For example, 84dB(A) over a 10-hour shift and 83dB(A) over a 12-hour shift are both equivalent in dose to 85dB(A) over the standard 8-hour shift.

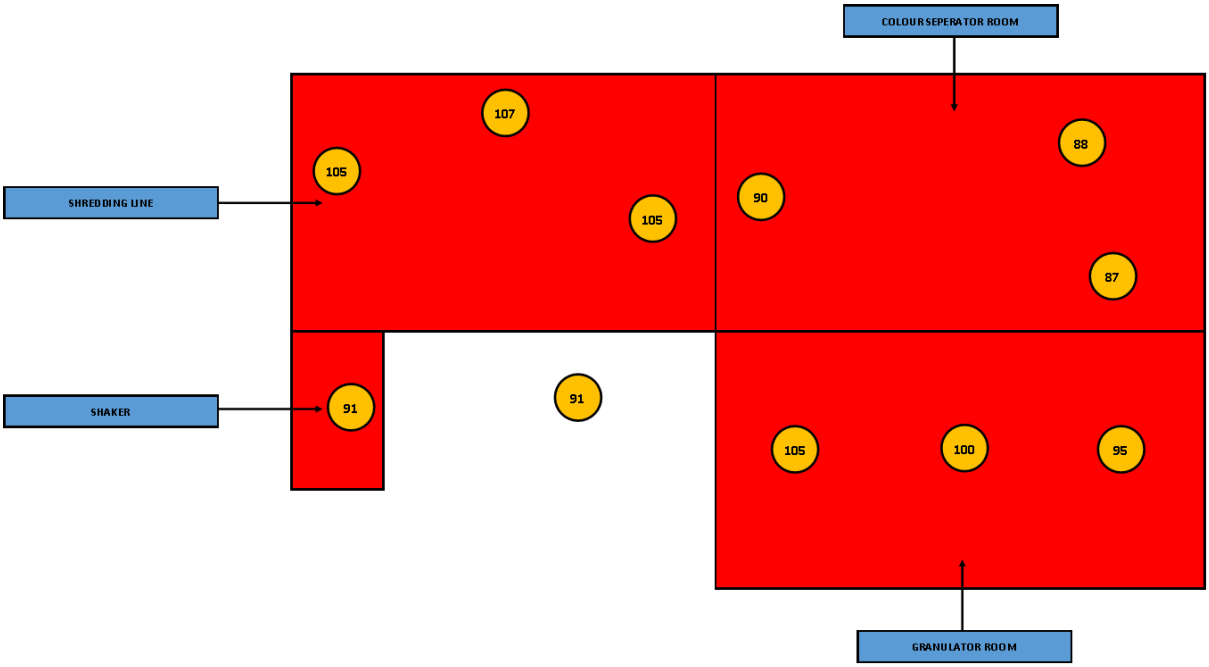
Unless otherwise stated, the values of daily personal noise exposure presented in this report are for a standard 8-hour day. Note that the dose adjustment for shifts of between 71⁄4 and 83⁄4 hours is not significant (less than 1⁄2 dB).

Noise Readings

Sound level readings were taken from a sample of machinery used on a typical day in the plant. All measurements were taken with the machine "in action" and not "running free" unless stated. The Exposure Duration times represent times stated by the employees that they would use the machinery for on a typical day. The Exposure Limit Value (ELV) of 87 dB(A) is not likely to be exceeded assuming the hearing protection supplied is worn at all times whilst in noisy areas. The ELV peak sound pressure of 140 dB is not likely to be exceeded at any position monitored during the visit.

Job/Activity/Process	Noise Level (L_{Aeq} dB)	Noise Level (L_{Ceq} dB)	Peak Pressure (L_{Cpeak} dB)	Exposure duration (mins)	Exposure points (job/task)	Exposure points per hour	Daily noise exposure ($L_{EP,d}$)	Ideal SNR Value
Pulveriser	89	101	111	180	94 31		**85 dB**	30
At water trough	104	106	119	120	1986 993		**98 dB**	35
Granulator 1	105	105	118	120	2500 1250		**99 dB**	34
Shredding Line (Upstairs)	103	104	119	480	6310 789		**103 dB**	33
Shredding Line (Downstairs)	106	107	121	540	14163 1574		**107 dB**	36
ECS	109	110	124	540	28259 3140		**110 dB**	39
Shaker	93	94	109	120	158 79		**87 dB**	23
Granulator 2	100	101	114	540	3558 395		**101 dB**	30

Floor Plan



Recommendations / Actions

To demonstrate compliance with the ***Control of Noise at Work Regulations 2005***, the following should be put in place:

• **Reduce noise levels at source** where it is reasonably practical to do so. This may be achieved by a number of methods:

- Introduce a “low noise” purchase policy for new machines.
- Useadifferent,quieterprocessforthetaskortheuseofquieterequipment.
- Ensurethatmachinesareregularlymaintained.Poormaintenancecancauseexcessive

noise from worn machines.
• **Isolate the noisy processes** where possible to reduce the number of employees at risk**.** This may be

achieved by:
- Carrying out noisy activities away from areas where other workers are likely to be exposed. ○ Introducingphysicalscreensorbarriersbetweenthenoisesourceandotheremployees.

Specialist advice should be sought from acoustic engineers to determine the most

appropriate solution.

All employees operating machinery identified in **RED** in the **EQUIPMENT/ACTIVITY NOISE LEVELS** section had the **potential** to be exposed to a daily personal noise exposure above the ***Upper Exposure Action Value*** (UAV) 85dB(A), depending on the length of time that the machines were used, the individual machine, the process being carried out and the noise generated by other employees.

- Anybody with a personal noise exposure level above the upper action value (85 dB) should have health surveillance which must include audiometric testing.
- Ensure that new employees have their hearing tested as soon as they start their employment.
- Assess the feasibility of job rotation from areas of high noise to areas of lower noise. e.g. halving the time spent in noisy areas will reduce an individual's noise exposure by 3 dB.
- Re-assess the noise exposure after any changes in the workplace.
- Publish a summary of the recommendations on the Company notice board or publish on the Company intranet.
- Continue to educate employees of the damage that hazardous noise levels can do to their hearing

  (e.g. noise induced hearing loss, tinnitus). Consider handing out the HSE pocket booklet, "Don't Lose Your Hearing".

- Ensure you repair the ECS machine to reduce the noise levels.

Hierarchy of Control

Options to reduce noise exposure **MUST** be investigated, evaluated and implemented if reasonably practicable. If these measures are not considered reasonably practicable, the reasons **MUST** be documented. The table below shows *an example* for the employee working at the pulverisor. A similar procedure should be carried out for all activities/operator points used on the premises.

Activity/ Typical Process Noise Level

Activity /process	Typical noise level	Control Hierarchy					
		Eliminate	**Substitute**	**Isolate**	**Engineering Controls**	**Admin Controls**	**PPE**
Pulverisor	89dB(A)	Elimination of machine This is not practicable. The machine is needed for specialist recycling.	Replace the machine. This is not Practicable. There isn't another machine that could suitably do this job.	Isolate the process. Investigate feasibility of isolating the machine.	Reduce noise levels received by Operator. Provide mobile acoustic screens to reduce the impact of	Ensure that regular maintenance and inspection is carried out Put in place a low noise purchasing	Provide suitable ear protection for all employees at risk. Provide information, instruction and training

					noise on Employees.	policy for new equipment. Reduce exposure times of Operators to reduce personal daily exposure. Provide training and signage.	on use of PPE.
Each of the six columns requires a response.		**Action**	**Action**	**Action**	**Action**	**Action**	**Action**
		Not possible.	**Not possible.**	Investigate	Investigate feasibility of acoustic screens or sound shelters for operator points.	Admin controls will be progressively implemented. Investigate feasibility of reducing exposure times.	PPE provided with suitable instruction.

Hearing Protection Calculator

Suggested Hearing Protection. Ideally, the intention is to provide protection down to a level between the range of 75dB to 80dB at the users ear. Avoid protectors resulting in less than 70 dB at the ear - **this is 'over-protection'.** For example – Using the pulveriser **at 89 dB (101 Leq C) will ideally require hearing protection with an SNR 30 (see table below). This will give an assumed protection at the ear of 75 dB.**

HSE recommends allowing 4dB for 'real-world' factors. Assume that this device will give: **75** dB at the ear

Select a protector so that daily exposure is reduced to at least below 85 dB. Ideally, aim for between 80 and 75 at the ear. Avoid protectors resulting in less than 70 dB at the ear - this is 'over-protection' (see BS EN 458:2004).

Providing Information to Employees

The provision of information to employees is of paramount importance. Where employees are likely to be exposed at or above any of the Action Levels the employers' information must include the following: -

- The likely noise exposure and the risk to hearing that noise creates.

- Where and when hearing protection must be worn.
- How to report any defects in hearing protectors and noise control equipment.
- Where and how hearing protectors can be obtained.

The employee should be instructed and trained in all aspects of noise control. They should also be instructed on the proper way to use hearing protectors, how to look after them and report any loss or damage that may occur. Information, instruction and training must be on-going and should take the form of oral explanation either in a group session or on an individual basis. Leaflets and posters can be used to good effect, reinforcing the company policy on hearing conservation. Various films and videos are available which would help maintain a high level of staff awareness and discipline.

Effects of excessive noise

The effects of excessive noise on workers can cause the following:

- Irreversible damage to hearing
- Interference with communications
- Reduction efficiency
- Fatigue

This can be avoided by the following:

- Issue each employee with the HSE Pocket Guide Don't lose your hearing! INDG363 (rev2).
- Carry out a "tool box talk", demonstrating to employees the typical noise levels from processes that they carry out.
- To demonstrate what noise induced hearing sounds like, use the link
- Provide employees with the instructions for the correct fitting of hearing protection. This may be

provided by the supplier of the ear protection equipment.

Hearing Protection

Hearing protection must be offered to employees on an individual basis. For example, some employees may not feel comfortable wearing earplugs due to medical problems such as eczema, ear infections or similar conditions. Other employees may not feel comfortable with earmuffs due to the tendency to make the ears feel hot or that they interfere with other personal protective equipment.

A record of the issue of hearing protection to employees should be made, and a maintenance and inspection regime should be put in place to ensure that faulty hearing protection is replaced. A template for carrying out the checks is included at the end of this report.

The issuing of hearing protection is a “last resort” and is only acceptable when all other ways of reducing noise exposure have been assessed and rejected. The primary focus of attention should be to reduce the noise levels at source.

It should not be used as an alternative to control noise by technical and organisational means, but for tackling the immediate risk while other control measures are being developed. In the longer term, it should be used where there is a need to provide additional protection beyond what has been achieved through noise control.

It should be noted that research has shown that the attenuation provided by earmuffs, when used in the working environment, is about **4dB** less than that predicted by the manufacturer’s data. Due to the large range of the noise levels measured from the tools/machinery, it is difficult to determine a suitable type of ear protection that would be applicable for use with all. Ideally, the intention is to provide protection down to a level between the range of 70dB to 80dB at the user’s ear. Whatever protection is used, a “de-rating” factor of 4dB must be applied to the manufacturers declared attenuation level. This is to compensate for factors such as poor fitting, wear and tear, etc. i.e. a manufacturer may declare an SNR rating of 35dB but the “real life” protection is 31dB.

As an example, a machine with a measured noise level of 103dB would require the user to wear protection of about **25dB**. This would provide protection down to 78dB, but when we apply the de-rating factor of 4 the “real life” protection value at the ear is 82dB which is outside the recommended range of 70 to 80 dB. As a result of applying the de-rating factor, we should be looking for a suppliers rating value of **29dB** giving us a “real life” protection at the ear of 78dB.

However, if the user used these same ear muffs when he was using a machine that produced a much lower sound level, e.g. a noise level of 88dB, the ear defenders would over protect. The noise level at the ear would then be 59dB, which would be much lower than the lower recommended limit of 70dB. Ideally, a hearing protection factor of about **10dB** would be required (suppliers rating value of **14dB**) giving a “real life” protection at the ear 78dB.

Performance of hearing protectors is often less than that reported on the packaging. One reason is that protectors are not worn for all of the required time. When protectors are removed in noisy areas, even for short periods, the overall protection provided is severely reduced.

The following link to the HSE website demonstrates the effects of removing hearing protection for even short periods. http://www.hse.gov.uk/noise/hearingprotection/index.htm

Any hearing protector worn for half of the time required will give no more than 3dB of effective protection, irrespective of its protection rating.

Employers can improve the protection gained from hearing protection by:

- Providing a range of suitable hearing protection from which employees can select a model that fits them well and they can use comfortably for the time required;

- Helping employees communicate without removing hearing protection in noisy areas (by providing

  quiet areas or protectors with communication facilities); and

- Ensuring, through training and supervision, that protection is in good condition and is worn at all times in areas where it is required.

If the protectors are removed for one hour during an 8 hour shift, the maximum protection that can be achieved is 9 dB, NO MATTER WHAT THE ABSOLUTE PERFORMANCE OF THE PROTECTOR. Similarly, removal for 5 minutes in 8 hours (approximately 99% wear rate) reduces the performance of a 26 dB protector to 17 dB. Thus, in practice, the absolute performance of the protector has little influence unless 100% wear rate can be guaranteed.

The consequence of this simple trade-off is that it is extremely difficult to ensure that personnel are adequately protected for noise levels much above 95 dB(A).

Figures published by the HSE indicate that audiometry coupled with some education temporarily raised the wear-rate in a sample of factories (by a factor of approximately 2 to c 30%), but that after 6 months it had reverted to the previous figure of c 15% (15% to 20% wear-rate in Noise Areas is fairly typical). A high degree of success was only achieved in cases where the use of hearing protection was made a condition of employment.

Hearing Protector Types

Hearing protectors fall into two distinct types- earplugs and earmuffs.

Ear Plugs

These can be further sub-divided into four types:

1. Variable Size Permanent Re-Usable Ear Plugs
These are available in a range of sizes to fit the individual employee. They are made from soft rubber or plastic and fit directly into the ear canal. They are generally considered to be cost effective. However, a trained person must initially fit them, and the correct size must be worn in each ear.

2. Universal Re-Usable Ear Plugs
These, due to their universal one size do not offer as much protection as the variable size plugs.

3. Disposable Ear Plugs
Usually made from mineral down, waxed cotton or compressed plastic, these earplugs provide variable protection depending on fit and materials used.

4. Semi-Insert Protection (Canal-Caps)
Widely used in the food industry as they are held in position by a headband.

5. However, over long periods they can be uncomfortable to wear.

Ear Muffs

Muffs fit over the ears and are held against the head by soft cushion seals. They are usually attached to headbands, but may be fixed to safety helmets. One size will fit most people and they are easy to remove and replace. However, they can make the ears feel hot and be uncomfortable to wear. Communication equipment can be built into the muffs to receive signals from a wired or aerial system.

Protection is good, provided that they are worn properly and the correct type is chosen for the noise level. If personal hearing protection is worn all the time the employees are exposed to noise, they should offer excellent protection. If they are removed, even for brief periods, their effectiveness will be dramatically reduced. Therefore, it is vital to educate the work force on the importance of wearing the protectors properly, in good condition, all of the time they are in the noise hazard.

Each pair of ear muffs should only be used by the employee to whom they are issued.

A requirement under the legislation is an **Exposure Limit Value (ELV) of 87dB(A)** for personal daily noise exposure. Employers are required to ensure that an employee's daily noise exposure level, taking into account the protection provided by hearing protection, does not exceed this limit.

Although there are many ways to reduce noise levels at source, no one method will be suitable for every situation. Limiting the time spent in the noisy areas can help to reduce the daily personal exposure to noise, (LEP,d), of the employees, but only to a limited amount (e.g. halving the exposure time will reduce the LEP,d by only 3dB(A)).

Exposure is highly variable either from day to day or job to job, it is extremely difficult to identify an employee's true daily personal noise exposure. Therefore, until the engineering control of noise can be implemented, the use of personal hearing protectors is recommended.

Employers Duties

Employers have the following duties in respect of **the *Control of Noise at Work Regulations 2005***

- Eliminate hazardous levels of noise at source or reduce to a minimum.
- To assess and where necessary measure noise exposure where employees are or are likely to be exposed to hazardous noise levels.
- To assess noise exposure over either an eight hour or one-week period.
- To provide information and training to workers and safety representatives where employees are exposed or likely to be exposed to hazardous noise levels above 80dB(A) or 135dB(C) peak.

- Provide, free of charge, audiometric testing to employees exposed above 85dB(A) and to be available on request for employees exposed above 80dB(A) and 135dB(C) peak.
- Provide suitable hearing protection to employees exposed above 80dB(A).
- Ensure that suitable hearing protection is worn by employees exposed above 85dB(A) and 137dB(C) peak at the ear.
- Not to expose any employee to a daily noise dose in excess of 87dB(A) and 140dB(C) peak at the ear (taking account of hearing protection).
- Introduce a programme of control measures when any employee is likely to be exposed above 85dB(A).
- Delimit areas, fit signs and restrict access where employees may be exposed above 85dB(A).

Publication of Assessment Results

The regulations require the results of this assessment to be "published" and made available to all personnel. It is recommended as a minimum that information regarding noise hazard areas, hearing protection and the company noise policy is circulated to managers and others responsible for high noise areas and the annotated factory plans in this report with noise hazard areas marked in colour is posted at suitable locations.

Employees Duties

Employees have the following duties in respect of ***the Control of Noise at Work Regulations 2005***

- to wear the hearing protection provided by the employer as and when instructed to do so
- to report defects in personal protective equipment (ear muffs and ear plugs)
- to co-operate with the Company to enable them to carry out their legal requirements
- not to interfere with, damage or abuse anything provided for their health, safety and welfare

Health Surveillance

Health surveillance in the form of regular audiometric testing (hearing tests) should be provided for all employees whose daily noise exposure exceeds the **Upper exposure Action Value.**

Preventative audiometric testing should also be available to workers whose noise exposure exceeds the **Lower exposure Action Value** where the noise assessment indicates a risk to health.

Hearing tests should be carried out in accordance with the Health & Safety Executive Guidance Note MS26

'A guide to audiometric testing programmes'.

To carry out a hearing test to satisfy these requirements, and the HSE guidelines for "best practice", as shown in *Discussion Document ISBN 0 11 883025 2, 'Audiometry in industry'*, the hearing test **must be carried out in an audiometric booth.**

Audiometric testing should be an integral part of the hearing conservation programme because it is the only true measure of the programme's effectiveness in preventing occupational noise-induced permanent hearing loss. The purpose of the tests will be to identify workers in the early stages of hearing loss and allow intervention before the loss becomes worse. **It is recommended that hearing tests are carried out within six months of an employee commencing employment.**

Ear Protection Zones

Fit signs at all access points as well as periodic "repeat" signing within the areas shown in **RED** on the site plan. In addition, fit plant specific signs to items of equipment such as forklift trucks and machines requiring the use of hearing protection by the operator.

The employer must ensure, so far as is reasonably practicable, that all who work in this area or who enter the zone be made to wear personal hearing protectors when the noisy tools and equipment are used.

Where noise sources are localised or intermittent, there is a choice between making the whole area a permanent ear protection zone or specifying the appropriate area close to the source or applying the ear protection zone status only when the noise source is operating. The first option is more easily supervised and enforcement is simpler. However, where an area can be quiet for some of the time, for example in the engineering workshops, there is something of a "credibility gap" between the perceived risks and the required precautions. The other approaches place greater emphasis on operator awareness and supervision.

Mandatory hearing protection sign

Large, clear mandatory hearing protection signs must be placed in prominent positions at all entrances to the hearing protection zones and at appropriate places within the zones as necessary. The size, nature and locations of the signs should be such that it is impossible for employees or visitors to enter the various areas without being fully aware that wearing hearing protectors is mandatory. These signs indicate that the area is a hearing protection zone and ear protectors must be worn within the zone when the noise source is operating.

Other noise hazard areas could be made into advisory hearing protection areas. The use of hearing protection in these areas is advised but not mandatory.

Advisory hearing protection sign
These supplementary signs, although not required by the regulations, are found useful by some companies. The signs indicate that the area is an advisory hearing protection area. PPE is available on request and it is advised that ear protectors are worn within the area.

Where noise sources are localised or intermittent, there is a choice between making the whole area a permanent ear protection or specifying the appropriate area close to the source or applying the ear protection zone status only when the noise source is operating. The first option is more easily supervised and enforcement is simpler.

However, where an area can be quiet for some of the time, there is something of a "credibility gap" between the perceived risks and the required precautions.

Appendices

Effects of excessive noise

The effects of excessive noise on workers in a factory can cause the following:

- Irreversible damage to hearing
- Interference with communications
- Reduction in efficiency
- Fatigue

Maintenance and Use of Equipment

The *Control of Noise at Work Regulations 2005* instructs employers that it is their duty to ensure, as far as is reasonably practicable, that all hearing protectors are used, and the equipment is maintained.

Signs and warning notices should be displayed to promote awareness of where and when protectors should be worn.

It is recommended that one person is made responsible for the distribution and maintenance of the protectors. All losses or damage should be immediately reported to this person. Records should be kept to establish when the protectors are being used and by whom. It should be company policy to verbally warn

anyone failing to use or maintain their hearing protectors. Proper provision should be made to ensure that the protectors are kept in a clean and hygienic condition.

The employees, for their part, must co-operate in all the noise control measures. Where the noise levels reach the **Upper exposure Action Value** or above, the employees **must** wear the hearing protectors which have been provided for them. It is also their duty to look after any protectors given to them and immediately report any loss or damage.

Audiometry

It is recommended that all employees have their hearing tested and the results recorded. Audiometric testing provides the means for establishing efficiency criteria regarding the noise control programme. It can also help to protect companies against false claims regarding industrial deafness from individuals who have acquired a hearing loss prior to employment. It has been established that regular monitoring of the employees hearing actually encourages the work force to wear their hearing protection. It is also a very strong educational tool which represents the on-going interest in the noise programme on the part of the management. Another powerful reason for performing audiometry is that it assists the employer in job placement. Also when the case history is taken into consideration, pre-employment audiometry can indicate those who are susceptible to noise induced hearing loss, or who suffer from certain conditions or diseases of the ear which they could at a later date, ascribe increasing deafness to noise exposure at work. These hearing tests should be re-checked on an annual basis so that any deterioration in the employees hearing can be noted.

Noise Assessment Frequency

It is recommended that a review of the noise assessment is carried out every two years or where there have been significant changes to departmental layout or procedures.

Glossary

Sound

Sound is a wave motion which occurs when a sound source sets the nearest particles of air into motion. The movement gradually spreads to air particles further away from the source. Sound propagates in air with an approximate speed of 340 metres per second. Its velocity in liquids and solids is greater: 1500m/s in steel.

Noise and Tones

A sound which is not desired is usually described as noise. Sound can consist of a single pure tone but in most cases it will consist of many tones of different frequencies and intensities.

Frequency

The sound wave's frequency (the number of vibrations per second) is expressed in units of Hertz (Hz). The audible range for a young person with normal hearing would lie between 20Hz and 20,000Hz. At low frequencies the air

particles will vibrate slowly producing bass tones, whilst the higher frequencies vibrate more quickly producing soprano tones.

Infrasound And Ultrasound

Sound with frequencies under 20Hz which is normally inaudible, is called infrasound. Sound over 20,000Hz, which is also inaudible, is described as ultrasound.

Decibel dB

The decibel is a unit of sound level using a logarithmic scale and is therefore not an absolute unit of measurement. The decibel is a ratio between a measured quantity and an agreed international reference level.

The 3dB Rule. An increase in noise level of 3decibels (+3dB) represents a doubling of noise energy. So,a noise exposure of 85 dB for 8 hours represents the same noise exposure as 88 dB for 4 hours.

Sound Level Measurement dB(A)

When measuring the intensity of a sound, an instrument which mimics the ears variable sensitivity to sound of different frequencies is used. This is achieved by building a filter into the sound level meter (S.L.M.) with a similar frequency response to that of the human ear. This is called an A-weighted filter because it conforms with the internationally standardised A-weighted curves. Subject research has shown that the A- weighted value also has a good correlation to both the risk of noise induced deafness and the annoyance rating of sound at all levels.

Equivalent Sound Pressure Level (Lep,d)

The formal definition of LEP,d can be regarded as the total exposure to noise throughout the working day, taking into account the average noise levels in the working areas and the time spent there, but taking no account of any hearing protection worn.

Leq,s

A measurement of a sample equivalent continuous sound level recorded during a typical work period.

Peak Action Level

This refers to loud exposure or impact noises e.g. Cartridge operated tools, hammers or guns. Measurements are taken of the actual peak of the sound pressure, the duration of which, may be as short as 50 micro-seconds. This measurement is of vital importance to workers who are subjected to a small number of very loud impacts during an otherwise quiet day.

Equivalent Exposures

Since every increase of 3dB(A) represents a doubling of noise intensity it is possible to calculate, for various points on the decibel scale, the equivalent of exposure to noise.

For example:-
85dB(A) for 8hrs is equivalent to:

88dB(A) for 4 hrs
91dB(A) for 2 hr
94dB(A) for 1 hr
97dB(A) for 1⁄2 hr
100dB(A) for 1⁄4 hr
from the above, it can be seen that working for 8 hours at 85dB(A) gives the same daily personal noise exposure (LEP,d) as working for 1 hour at 94dB(A) and so on.

References

- Noise at Work: Guidance for employers, INDG 362
- Sound Solutions: techniques to reduce noise at work HSG138
- Health Surveillance in Noisy Industries: Advice for employers INDG193
- Keep the Noise Down: Advice for purchasers of Workplace Machinery INDG263
- Don't lose your hearing! INDG363 (rev2)
- Controlling noise at work. Guidance on the Control of Noise at Work Regulations 2005. L108, ISBN 07176 6164 4 HSE Books

Template for Hierarchy of Control

Tool	Typical Noise Level	Control Hierarchy					
		Eliminate	Substitute	Isolate	Engineering Controls	Admin Controls	PPE

Each of the six columns requires a response		**Action**	**Action**	**Action**	**Action**	**Action**	**Action**

Hearing Protection Check Record

Earmuff performance depends on the effectiveness of the cushion seal around the ear. If the head-band "relaxes" with time or is stretched to reduce pressure, then attenuation will be reduced. A second factor is that sweat will gradually harden the plastic cushions/seals, making them less flexible and less effective. Earmuffs should be kept in good condition and the cushions/seals cleaned regularly (and replaced when they harden).

Employee:			Department:	
Type of Hearing protection*	Manufacturer	Type	Date issued	Signature

*** TYPES OF HEARING PROTECTION**
EAR MUFFS – CUPS ON HEADBAND - COVER THE COMPLETE EAR
SEMI INSERTS/CAPS - BANDED EAR PLUGS, THE PLUGS ARE NOT FULLY INSERTED IN THE EAR RE-USEABLE PLUGS - SEPARATE PLUGS THAT FIT IN THE EAR
CUSTOM PLUGS – CUSTOM MADE RE-USABLE PLUGS

REGULAR INSPECTION CHECKLIST

Date	Sign	Ok	Date	Sign	Ok	Date	Sign	Ok
Date	Sign	Ok	Date	Sign	Ok	Date	Sign	Ok

HEARING PROTECTION SHOULD BE CHECKED MONTHLY. DAMAGED HEARING PROTECTION MUST NOT BE WORN.

DAMAGE MUST BE REPORTED TO YOUR SUPERVISOR HEARING PROTECTION SHOULD BE KEP T CLEAN.

Sample Noise Purchasing Policy

The Control of Noise at Work Regulations 2005 Purchasing

Policy for new equipment and replacing old equipment & tools

The ***Control of Noise Regulations 2005*** requires that the actions taken by an employer in controlling noise risks and noise exposure should include consideration of the choice of appropriate work equipment emitting the least possible noise.

For many types of equipment there will be models designed to be less noisy. Noise-reduction programmes are only likely to be effective if they include a positive purchasing policy which makes sure you take noise into account when selecting machinery. When buying, hiring or replacing equipment the employer should ask potential suppliers for information on the noise emission of machines under the conditions of intended use, and use that information to compare machines.

Where it is found to be necessary to purchase machinery which causes workers to be exposed over the action levels of the above regulations, keeping a record of the reasons for the decision will help guide future action, e.g. by providing those responsible for future machine specifications with information on improvements that are needed.

Selection of low-noise tools and machinery through a positive purchasing and hire policy can avoid the need to apply retrofit noise control. This could be the single most cost effective, long-term measure an employer can take to reduce noise.

When considering the purchase of new or replacement powered work equipment, we will consider the noise characteristics of the equipment we choose, and so far as is reasonably practicable, we will choose equipment which is suitable for the work, efficient and of a lower noise level.

We will, where possible;

- Discuss our equipment requirements with a range of suppliers.
- Check with suppliers that their equipment is suitable and will be effective for the work.
- Compare noise emission information for different brands/models of equipment.
- Ask for noise data relating to how the equipment will be used and for any training requirements required for safe operation.
- Ask staff to try different models and brands of equipment and take account of their feedback prior to making purchasing decisions.
- Find out about the equipment's noise reduction features and how to use and maintain these to ensure they are effective.
- Obtain from the supplier's information on how to use the machine safely, what tasks the machine is designed for, the noise emissions, any maintenance procedures needed on noise reduction features and instructions on how to use the equipment to avoid risk from noise.
- Insist on field data from suppliers wherever possible. Lab data may be unrepresentative of the noise levels likely to be encountered on the job.

Signature:..... Director:.....
Date:.....

Calibration Certificate

CASELLA

Certificate of Conformity and Calibration

Instrument Model:-	CEL-620B		
Serial Number	2079614		
Firmware revision	V018.02		
Microphone Type:-	CEL-252	Preamplifier Type:-	N/A
Serial Number	69837	Serial Number	
Instrument Class/Type:	2		

Applicable standards:-

IEC 61672-2:2003 / EN 61672 (Electroacoustics - Sound Level Meters)
IEC 60651:1979 (Sound Level Meters), ANSI S1.4 - 1983 (Specifications For Sound Level Meters)

Note:- The test sequences performed in this report are in accordance with the current Sound level meter Standard - IEC61672. This combination of tests performed are considered to confirm the products electro acoustic performance to all applicable standards including superseded Sound Level Meter Standards - IEC60651 and IEC60804.

Test Conditions:-	23 °C 40 %RH 1012 mBar	Test Engineer:- Date of Issue:-	Malcolm Neale October 22, 2019

Declaration of conformity:-

This test certificate confirms that the instrument specified above has been successfully tested to comply with the manufacturer's published specifications. Tests are performed using equipment traceable to national standards in accordance with Casella's ISO 9001:2008 quality procedures. This product is certified as being compliant to the requirements of the CE Directive.

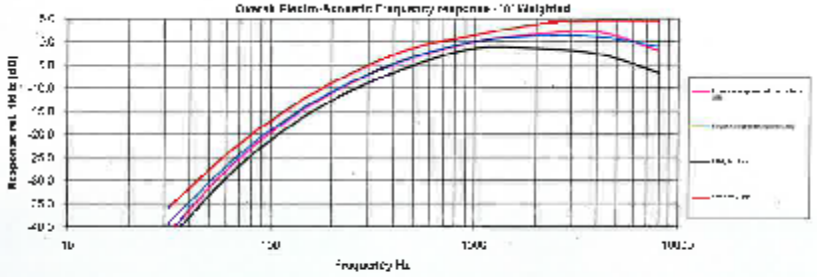
Test Summary:-

Self Generated Noise Test	All Tests Pass
Electrical Signal Test Of Frequency Weightings	All Tests Pass
Frequency & Time Weightings At 1 kHz	All Tests Pass
Level Linearity On The Reference Level Range	All Tests Pass
Toneburst Response Test	All Tests Pass
Cpeak Sound Levels	All Tests Pass
Overload Detection	All Tests Pass
Acoustic Tests	All Tests Pass

Combined Electro-Acoustic Frequency Response - A Weighted

Combined Electro-Acoustic Frequency Response - A Weighted (IEC 61672-3:2006)

The following A-Weighted frequency response graph shows the instruments overall frequency response based upon the application of multi-frequency pressure field calibrations. The Microphones Pressure to Free Field correction coefficients are applied to pressure response. Reference level taken at 1kHz.



THE ELAS GROUP	**PDA Plastics Ltd**	PDA Plastics Ltd

Specific Risk Assessment:
(For further information on completing this form see the separate instruction sheet)

Reference No: ERA-01	ERA Revision:

Hazard - Assessment: *[Subject being assessed e.g. Use of a machine, A work area, Cash handling, etc]*
Noise and vibration from the operation of site plant and equipment.

Location / Work Area	*Whole site*

Risks Identified *(e.g. Hazard / Oil spillage-Risk / Serious injury due to slips and falls).* *Use your general risk assessments supplied, to assist you with the identification of your hazards.*
Noise nuisance.
Vibration nuisance.
Potential Receptors Identified
Potentially sensitive receptors for noise include: Residential premises; Commercial units; Public footpaths.
Potentially sensitive receptors for vibration include: None

Persons at Risk *(enter a ✓ in the box of those affected)*			
Employees		*Young Persons (Under 18 years /individual assessment)*	
Contractors/Visitors/Customers		*Pregnant Worker (individual assessment required)*	
General Public	/	*Others (e.g. Disabled Workers)*	Environment

Existing Risk Controls *(e.g. Protective clothing, Training, Preventative maintenance, Guarding, Signage)*
The site is located within an industrial estate.
The site is bounded by a double skinned steel fence of solid panels rising to a height of approximately 5.2 meters.
There is a chalk cliff of a height of approximately 15 meters from the Northwest to the Southwest perimeter.
The plant operating hours are restricted to between 08:00 – 16:00
The nearest residential premises are approximately 100 meters to the Southwest (behind and above the chalk cliff).
A noise survey has been conducted with the peak noise level measured at 110dbA
The noise level is estimated at approximately 80dbA at the fence line.

TAKING INTO ACCOUNT THE EXISTING RISK CONTROLS. Select from the table below the likelihood of harm and the severity of the harm. *(Enter a ✓ in the relevant boxes)*

RISK EVALUATION KEY

		Consequences				
		Insignificant - 1	Minor - 2	Moderate - 3	Major - 4	Catastrophic - 5
Likelihood	Rare - 1	Low	Low	Low	Low	Medium
	Unlikely - 2	Low	Low	Medium	Medium	Medium
	Moderate - 3	Low	Medium	Medium	Medium	High
	Likely - 4	Low	Medium	Medium	High	High
	Almost Certain - 5	Medium	Medium	High	High	High

Likelihood of Harm/Injury	***Almost Certain***	**5**		***Likely***	**4**		***Moderate***	**3**	/	***Unlikely***	**2**		***Rare***	**1**	

Severity of Harm/Injury	***Catastrophic***	**5**		***Major***	**4**		***Moderate***	**3**		***Minor***	**2**	/	***Insignificant***	**1**	

LIKELIHOOD OF HARM / INJURY x SEVERITY OF HARM / INJURY = RISK RATING

Risk Rating *(enter a ✓ in the relevant box below)*

	x		=	

Very High Risk 15+		Medium Risk 5-14	/	Low Risk 1-4	

Now you have established the risk level consider how frequently is the risk is likely to arise *(enter a ✓ in the relevant box below)*

Continual		Frequent	/	Minimal	

Now you have completed your initial assessment answer the question below:-

Do you consider the risk controls adequate?	Yes	/	No	

Is there any reference to additional assessments *(e.g. CoSHH and manual handling)*

Risk Assessment:	Ref No:	Risk Assessment:	Ref No:	Risk Assessment:	Ref No:

What further ACTION is required to reduce the risk
Book a new noise assessment to evaluate the noise levels around external plant, and at the site perimeter and behind the fence line.

Action to be implemented by:	Target Date:	Completed Date:
Paul Alexander	30 June 2022	

Initial assessment completed by: Assisted by: Jamie McAllen	Name:	Signature:	Date:

Assessment review:	Date of first review:

Assessment review completed by:	Name:		Signature:		Date:	
Reason for review:	Annual Review:		Changes:		Accident/Incident:	
Comments:						

Assessment review completed by:	**Name:**		**Signature:**		**Date:**	
Reason for review:	Annual Review:		Changes:		Accident/Incident:	
Comments:						

Assessment review completed by:	**Name:**		**Signature:**		**Date:**	
Reason for review:	Annual Review:		Changes:		Accident/Incident:	
Comments:						

Assessment review completed by:	**Name:**		**Signature:**		**Date:**	
Reason for review:	Annual Review:		Changes:		Accident/Incident:	
Comments:						

PDA PLASTICS LTD SITE MANAGEMENT PROCEDURE		SMP010 NOISE CONTROL	
Created on: 02nd Sept 2022	**Managing Director**	**Production Supervisor**	**Site Management**
	Paul Alexander	**Tony Cattini**	**Next review due: SEPT 2023**

No	**Operating Procedures**	**Key Points/Hazards/Tools**
1.0	Site operations	The site operates in an industrial area which is in an old chalk pit and has a natural sound barrier which naturally reduces the noise from the operation. The site boundary is lined with shipping containers double stacked which also reduces noise from the operation.
1.1	Site working hours	The site working hours are from 0400hrs to 1700hrs Monday to Friday and
2.0	Noise control for the shredding operation is in place.	The shredding line usage is kept to a bare minimum and guidance is not use the shredder between the hours of 1800hrs and 0800hrs Monday to Friday.
3.0	Use of the Shredder at the weekend.	The Shredder is generally not used at the weekend. If the shredder is needed for production at weekends the use will be kept to a bare minimum between the hours of 0900hrs and 1400hrs.

AIR MONITORING REPORT

PDA Plastics Ltd

Front RMS
Commisioners Road
Strood
Rochester
ME2 4ED

Date of assessment: 11th March 2022

Assessment carried out by: Gavin Winter

Assessment review date: March 2024

Nominated person (by company): Paul Alexander

Contents

Introduction

This report provides the results of the air monitoring survey that was carried out at your premises on the 11th March 2022.

The object of the survey is to measure employee's exposure to substances used or generated at your business. This is to ensure exposure to substances is reduced to as far as is reasonably practicable and below any workplace exposure limits imposed under The Control of Substances Hazardous to Health Regulations 2002 (As amended).

Terms of Reference

You must consider the report is based on the information/evidence provided and the observations and working practices that the consultant identified on the day of the survey. There may be observations that were not evident or indicated to the consultant during the survey. However, accuracy is of paramount importance to our profession and we will endeavour to provide you with a comprehensive report for the survey carried out.

It should be noted that the air monitoring survey and the subsequent report do not constitute a COSHH risk assessment and are only intended as a guide to the levels of substances monitored for in order to inform the COSHH assessment.

Procedure

The following criteria has been utilised by your professional Health and Safety Consultant in order to obtain the information within this report:

- The visit
- The meeting
- Walk round
- Professional opinion
- Questions/Answers
- The results from the air monitoring

Exposure Control Measures

This report considers the exposure control measures available to the business and any control measures observed on the day of the inspection. However, the viability of control measures are only tested by the air monitoring in terms of the exposure that an individual employee; who has had the sampling equipment attached to them; is subject to.

The Control of Substances Hazardous to Health Regulations 2002

Regulation 6: requires employers to assess and control the risks from any harmful substances or materials that are stored, used, handled or generated in the course of a business's work.

Regulation 7: requires that every employer shall ensure that the exposure of his employees to substances hazardous to health is either prevented or, where this is not reasonably practicable, adequately controlled.

Regulation 8 & 9: requires employers to ensure that the control measures are properly used, maintained, examined and tested to ensure they are working properly.

Regulation 10: the employer shall ensure that the exposure of employees to substances hazardous to health is monitored in accordance with a suitable procedure.

In the context of regulation 10, exposure monitoring means using suitable techniques to assess the extent of employees' exposure to substances hazardous to health via all routes (inhalation, ingestion and/or skin). The information gathered during exposure monitoring can help an employer assess whether the control of employees' exposure is adequate.

Regulation 11: Where it is appropriate for the protection of the health of his employees who are, or are liable to be, exposed to a substance hazardous to health, the employer shall ensure that such employees are under suitable health surveillance.

The employer shall ensure that a health record, containing particulars approved by the Executive, in respect of each of his employees to whom applies, is made and maintained and that the record or a copy thereof is kept available in a suitable form for at least 40 years from the date of the last entry made in it.

The objectives of health surveillance are to:

- check the health of individual employees by detecting, as early as possible, adverse changes which may be caused by exposure to substances hazardous to health;
- collect, keep up-to-date and use data and information for determining and evaluating hazards to health so that action can be taken to prevent more serious disease from developing;
- check control measures are working effectively by providing feedback on the accuracy of the risk assessment and the effectiveness of control measures to identify where further steps to manage risk are needed.

Regulation 12: Every employer who undertakes work which is liable to expose an employee to a substance hazardous to health shall provide that employee with suitable and sufficient information, instruction and training.

Introduction

PDA Plastics Ltd are a uPVC window and door recycling company. They specialise in uPVC window and door recycling, reducing the need for landfill and minimising waste. Their site is based in Rochester.

They have a large building which is separated into several areas where the windows go through the recycling process. The process starts in the yard outside and then goes on to the shredder, magnet shake table, ECS, granulator, float assist machine, colour separator, pulveriser and then granulator. Employees work at different points on the line.

This air assessment was carried out to determine the workplace exposure level of employees for vinyl chloride.

Employees work from 7am until 4pm.

Sampling, Analysis and Workplace Exposure Limits

The monitoring was carried out in accordance with the guidelines given in the HSE document HSG173, 'Monitoring Strategies for Toxic Substances'.

Sampling was carried out in accordance with the Health and Safety Executives (HSE's) Methods for the Determination of Hazardous Substances (MDHS).

Workplace exposure limits are set to help protect the health of workers. The limits are time weighted average (TWA) concentrations of hazardous substances in the air. The set periods are the 15 minutes (short term) or 8 hours (long term). You as an employer must ensure that the Workplace exposure limit is not exceeded.

Results of the monitoring have been compared to the relevant workplace exposure limits (WELs) detailed in EH40/latest update.

Vinyl Chloride 226-01 2.6 -

Analysis of the samples was carried out by Envirochem Analytical Laboratories who are a UKAS accredited laboratory.

Observations

Employees are provided with training and instruction on how to do their work safely. This is done on induction, and they are given standard operating procedures for all tasks they carry out. MSDS sheets were provided ahead of the visit and are available to employees should they wish to see them. These are not signed for, and this could be a consideration to ensure that employees are aware of the hazards of the materials they work with and how to work with them safely.

Health surveillance is carried out annually and this includes spirometry (lung function) testing, skins checks and a health questionnaire.

There is local exhaust ventilation in parts of the factory however this is not thoroughly tested and inspected every 14 months, and this should be arranged. The LEV has water suppression systems and dust extraction. There are currently plans to increase LEV in the colour area. The filters are changed every 3 months. Masks are available for this. Ensure that masks are made mandatory for this task and signage is added.

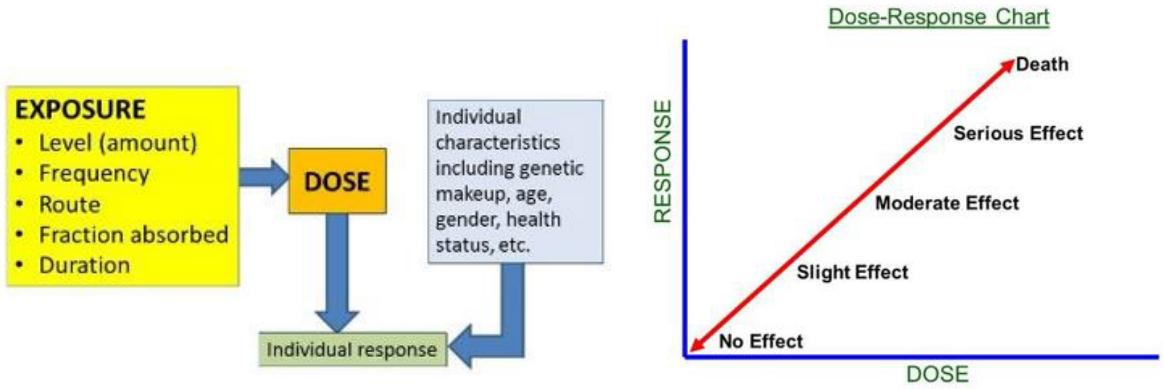
There is an obvious effort at housekeeping however the site has a lot of dust and so this should be increased to happen more frequently. Sweeping brushes are currently used and this can cause dust to be brought up into the breathing zone. Instead, industrial vacuums or wet mops should be used. And if sweeping is done, it should be done using respiratory protective equipment only. The business is currently looking at purchasing industrial vacuums for this purpose.

RPE is provided and the type varies depending on the employee, but some employees currently use JSP Force-8 FFP3 and 3M 6035 half-face masks. Face fit testing is not currently carried out. This should be carried out as soon as possible and employees should be clean- shaven. Face shapes of people vary, and face fit testing ensures, in line with regulations, that there is an effective seal between face and mask. Beards or facial hair interferes with that seal and so protection is not guaranteed.

Eating is not permitted in work areas and there is a canteen portacabin provided for this. Drinks are taken at workstations, but these are bottled and so have lids. Ensure that drinks are not used without a lid as this will add to the exposure as substances settle from the air.

Risks to Health

As every individual is different, the following could occur above or below the Workplace Exposure Limit.



Air quality in the workplace has the potential to cause the health issues below:

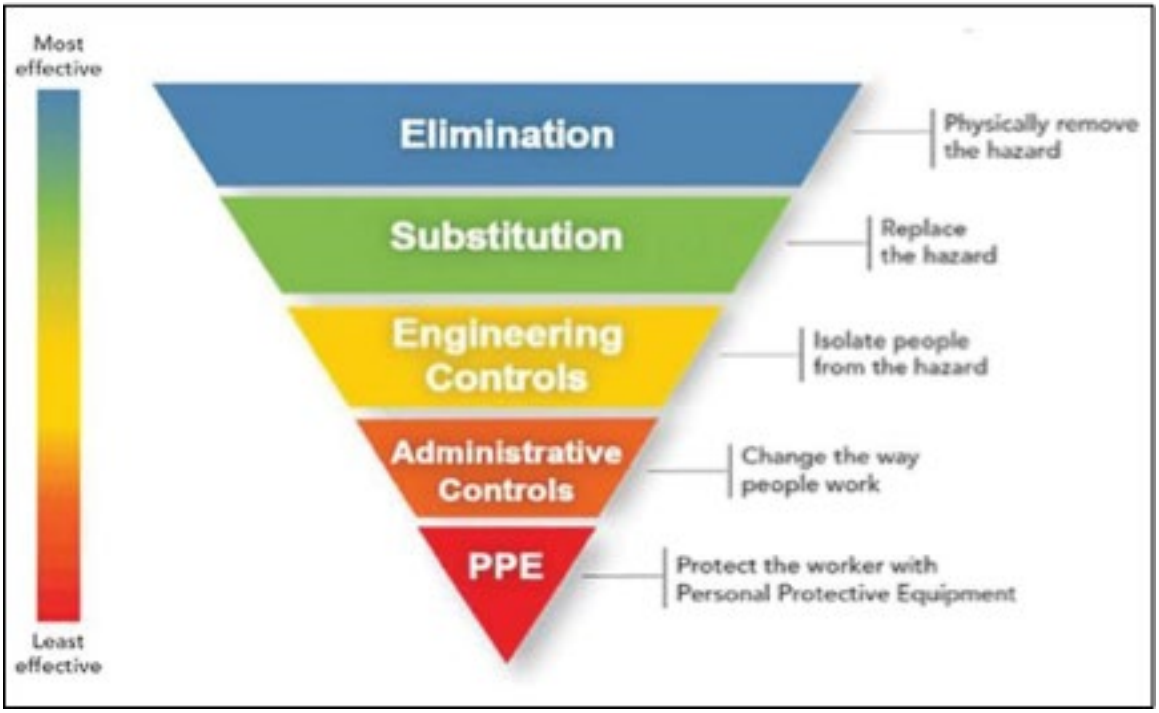
Airborne Dusts – Exposure to dust can cause irritation of the respiratory tract, skin and eyes. Repeated exposure may lead to the development of lung diseases such as Chronic Obstructive Pulmonary Disease (COPD).

Inhaling dust can create breathing problems. The health effects of breathing in dust can take many years to develop. Inhalable dust is visible to the naked eye. This dust may consist of larger or heavier particles that tend to get trapped in the nose, mouth, throat or upper respiratory tract where they can cause damage. Respirable dust is fine enough to be invisible to the naked eye and can be breathed deeply into the lungs and cause harm.

Some dust can become trapped in the mucus that lines the respiratory tract. This mucus tends to be either spat out or swallowed. Inhaled dusts can get into the digestive tract, where they can cause local effects such as gastrointestinal tract irritation. Alternatively, they can enter the bloodstream and produce effects in other organs and tissues. Dust particles produced during the cutting, grinding and drilling of materials can cause eye damage or irritation. Some dusts may also cause harm to eyes due to their chemical nature.

Some dust can cause ulceration of the skin and irritation. Skin can be harmed by dusts such as epoxy resins, rubber processing chemicals, wood dust and fibreglass and can lead to dermatitis. Smaller in size dust is ‘thoracic dust’ (sometimes called PM10) which is 10 microns or less and can reach the lungs. If the dust is sufficiently small, it is called ‘respirable dust’ (5 microns or less) and is the most hazardous as it can be inhaled deeply into the lungs.

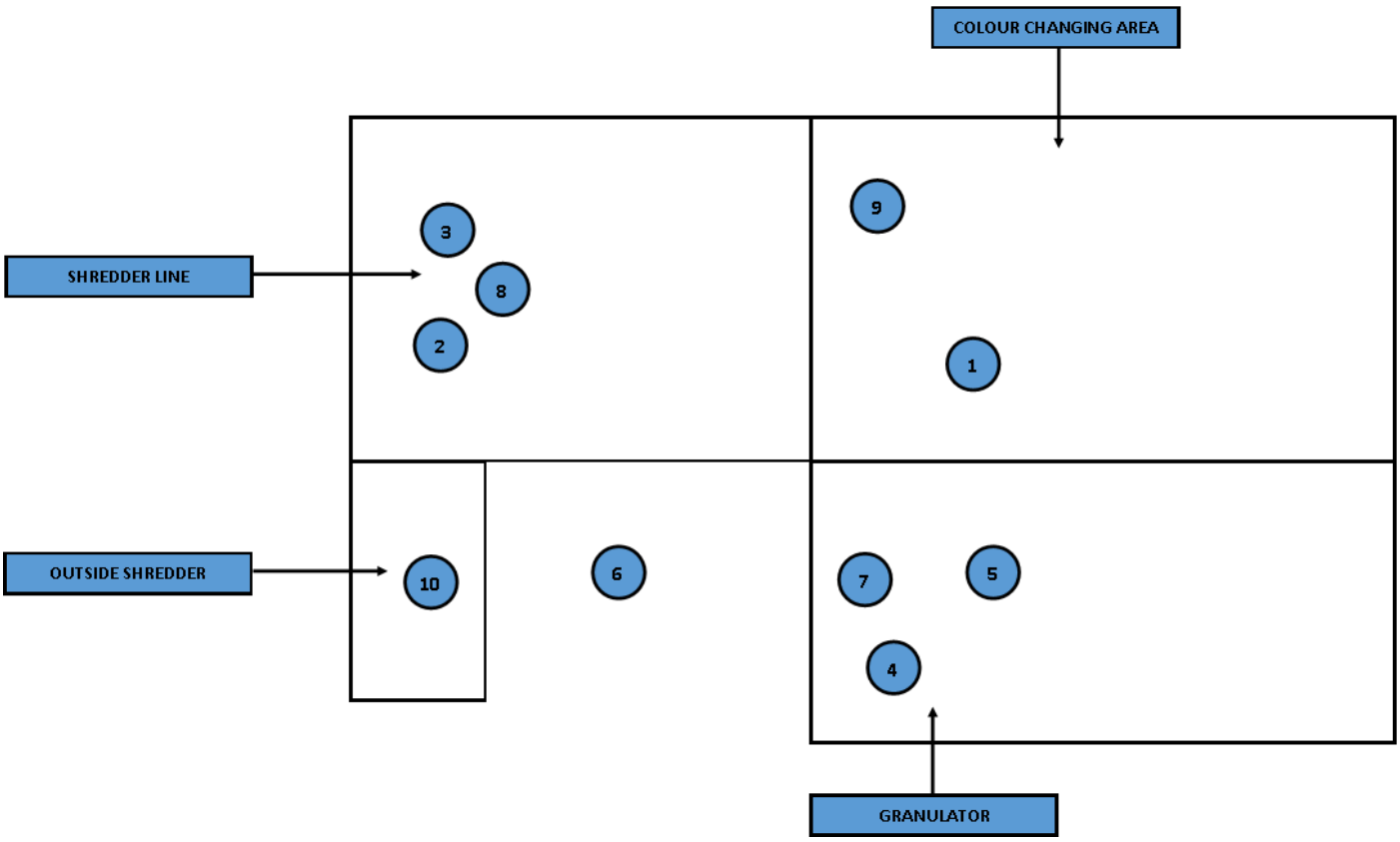
Exposure to respirable dust can put health at risk by irritating the eyes and the respiratory system or by aggravating existing respiratory problems



Vinyl Chloride - Acute exposure to vinyl chloride can cause dizziness, drowsiness, unconsciousness, and at extremely high levels can cause death. Vinyl chloride is a respiratory irritant producing coughing, wheezing and breathlessness. Other effects include headache, ataxia and coma.

Floor Plan

Showing locations of air monitoring pumps



Personal Sampling Results

Personal Sampling Results

Name	Sample Number	Location/Operation	Filter Reference	Sample Time Minutes	Flow Rate mls/ min	Total Vol Litres	Substance	Weight of Sample Mg/ µg	Conc. Over Test mg/m³	8 Hour Time Weighted Average mg/m³	% of WEL
Paul. A	1	Manager – All over	0835	240	50	12	Vinyl Chloride	<0.010	<0.010	<0.010	0
							VOCs	<0.010	<10	<10	-
Terry. W	2	Shredder	0839	240	50	12	Vinyl Chloride	<0.010	<0.010	<0.010	0
							VOCs	<0.010	<10	<10	-
Adam. S	3	Shredder	0834	240	50	12	Vinyl Chloride	<0.010	<0.010	<0.010	0
							VOCs	<0.010	<10	<10	-
Regan. P	4	Granulator	0840	240	50	12	Vinyl Chloride	<0.010	<0.010	<0.010	0
							VOCs	<0.010	<10	<10	-
Anythony. P	5	Granulator Room Supervisor	0838	240	50	12	Vinyl Chloride	<0.010	<0.010	<0.010	0
							VOCs	<0.010	<10	<10	-
Glenn	6	All areas	0841	240	50	12	Vinyl Chloride	<0.010	<0.010	<0.010	0
							VOCs	<0.010	<10	<10	-

Effective control of substances is deemed as achieved if the results are below one third of the workplace exposure limit.

= Above the workplace exposure limit.
= Below the workplace exposure limit, but above one third deemed acceptable for effective control.
= Below one third of the workplace exposure limit.

Background Sampling Results

Sample Number	Location/Operation	Filter Reference	Sample Time Minutes	Flow Rate mls/ min	Total Vol Litres	Substance	Weight of Sample Mg/ µg	Conc. Over Test mg/m³	8 Hour Time Weighted Average mg/m³	% of WEL
7	Granulator	0843				Vinyl Chloride	<0.010	<0.010	<0.010	0
						VOCs	<0.010	<10	<10	-
8	Shredder	0842				Vinyl Chloride	<0.010	<0.010	<0.010	0
						VOCs	<0.010	<10	<10	-
9	Colour Seperator	0836				Vinyl Chloride	<0.010	<0.010	<0.010	0
						VOCs	<0.010	<10	<10	-
10	Shredder (Outside)	0837				Vinyl Chloride	<0.010	<0.010	<0.010	0
						VOCs	<0.010	<10	<10	-

Effective control of substances is deemed as achieved if the results are below one third of the workplace exposure limit.

= Above the workplace exposure limit.
= Below the workplace exposure limit, but above one third deemed acceptable for effective control.
= Below one third of the workplace exposure limit.

Conclusions

Personal exposure for all employees was below the workplace exposure limit for all substances tested. However, the work processes produce a lot of dust and so you should do everything that is reasonably practicable to control this. Follow the actions below and read the HSE guidance note EH44 “Dust in the workplace – General principles of good practice”. It is advisable that on the next air sampling assessment you sample for inhalable and respirable dust.

Actions

- Ensure dust masks are stored away from dusty areas, removed last when employees are changing to ensure dust does not contaminate them. The filters should be changed where applicable, and regular inspections of the masks should be undertaken to ensure they are fit for purpose.
- Ensure face fit testing is carried out of those employees who wear masks.
- Rotate employees between less dusty areas and more dusty areas.
- Safety briefings discussing the substances used/generated and the controls in place,

  combined with training in using the controls correctly should be continued.

- The hierarchy of controls for prevention of exposure should be checked against all processes and the most appropriate controls applied. Please see Appendix 1 for a

  template.

- Read the HSE information booklet “Dust in the workplace, general principles of

  protection” for additional information on controlling workplace dust.

- Investigate additional LEV.

Appendix 1: Hierarchy of Controls Assessment Sheet

The hierarchy of control principles are shown below and should be considered for all substances used or generated. In order of priority:

1. Eliminate the use of a harmful product or substance and use a safer one.
2. Use a safer form of the product, e.g. paste rather than powder.
3. Change the process to emit less of the substance.
4. Enclose the process so that the product does not escape.
5. Extract emissions of the substance near the source.
6. Have as few workers in harm's way as possible.
7. Provide personal protective equipment (PPE) such as gloves, coveralls and a respirator. PPE must fit the wearer.

If your control measures include 5, 6 and 7, make sure they all work together.

Substance name or process	**Can the harmful product or substance be replaced with a safer one?**	**Can a safer form of the product be used?**	**Can the process be changed to emit less of the substance?**	**Can the process be enclosed so that the product does not escape?**	**Can the process emissions be extracted via a local exhaust ventilation system?**	**Can workers be moved away from harm?**	**Is any personal protective equipment required? (Use as a last resort)**

Appendix 2: Local Exhaust Ventilation (LEV) Checklist

Please complete the check list before starting work. You must report any problems as they occur.

Name of Employee:	
Location of the extractor (LEV):	
Does the indicator show the LEV is working properly?	
Is it taking away all the harmful dust, mist, fumes and gas? Remember, some of these may be invisible.	
Are you close enough to it so it can do its job properly?	
Are there any signs it is not working properly, like smells or settled dust?	
Are there any unusual noises or vibration coming from it?	
Is the 'tested' label still in date?	
Have you told your supervisor about anything you think may be wrong?	

Please add any relevant notes below:

08450 50 40 60 info@elas.uk.com www.elas.uk.com

Charles House, Albert Street, Eccles, M30 0PW

Dust.

This report provides information on the potential for waste operations to generate dust emissions on the Site and mitigation measures that are in place to reduce the impact to nearby sensitive receptors.

SMP 009. Doc No.007 & SMP007. Doc No. 045

	PDA Plastics Ltd	
Specific Risk Assessment: (For further information on completing this form see the separate instruction sheet)		
Reference No: ERA-02	ERA Revision:	

Hazard - Assessment: *[Subject being assessed e.g. Use of a machine, A work area, Cash handling, etc]*
Airborne dust and particulates.

Location / Work Area	*Whole site*

Risks Identified *(e.g. Hazard / Oil spillage-Risk / Serious injury due to slips and falls).* *Use your general risk assessments supplied, to assist you with the identification of your hazards.*
Dispersion of particulate matter in the air resulting in reduced air quality at nearby sensitive receptors beyond the site boundary.
Impacts from dust fallout and deposition, including to fauna and flora, and amenity at sensitive receptors.
Potential Receptors Identified
Potentially sensitive receptors include: Residential premises; Commercial units; Public footpaths.

Persons at Risk *(enter a ✓ in the box of those affected)*			
Employees		*Young Persons (Under 18 years /individual assessment)*	
Contractors/Visitors/Customers		*Pregnant Worker (individual assessment required)*	
General Public		*Others (e.g. Disabled Workers)*	Environment

Existing Risk Controls *(e.g. Protective clothing, Training, Preventative maintenance, Guarding, Signage)*
Dust/particulate analysis shows reparable dust to be well below the WEL.
The site is located within an industrial estate, there is no fauna or flora known to be at risk.
The site is bounded by steel shipping containers permanently located rising to a height of approximately 5.2 meters.
There is a chalk cliff of a height of approximately 15 meters from the Northwest to the Southwest perimeter.
The nearest residential premises are approximately 100 meters to the Southwest (behind and above the chalk cliff).

TAKING INTO ACCOUNT THE EXISTING RISK CONTROLS. Select from the table below the likelihood of harm and the severity of the harm. *(Enter a ✓ in the relevant boxes)*

RISK EVALUATION KEY

		Consequences				
		Insignificant - 1	Minor - 2	Moderate - 3	Major - 4	Catastrophic - 5
Likelihood	Rare - 1	Low	Low	Low	Low	Medium
	Unlikely - 2	Low	Low	Medium	Medium	Medium
	Moderate - 3	Low	Medium	Medium	Medium	High
	Likely - 4	Low	Medium	Medium	High	High
	Almost Certain - 5	Medium	Medium	High	High	High

Likelihood of Harm/Injury	***Almost Certain***	**5**		***Likely***	**4**		***Moderate***	**3**		***Unlikely***	**2**		***Rare***	**1**	/
Severity of Harm/Injury	***Catastrophic***	**5**		***Major***	**4**		***Moderate***	**3**		***Minor***	**2**	/	***Insignificant***	**1**	

LIKELIHOOD OF HARM / INJURY x SEVERITY OF HARM / INJURY = RISK RATING

Risk Rating *(enter a ✓ in the relevant box below)*

	x		**=**	

Very High Risk 15+		**Medium Risk 5-14**		**Low Risk 1-4**	/

Now you have established the risk level consider how frequently is the risk is likely to arise *(enter a ✓ in the relevant box below)*

Continual		**Frequent**		**Minimal**	/

Now you have completed your initial assessment answer the question below:-

Do you consider the risk controls adequate?	**Yes**	/	**No**	

Is there any reference to additional assessments *(e.g. CoSHH and manual handling)*					
Risk Assessment:	**Ref No:**	**Risk Assessment:**	**Ref No:**	**Risk Assessment:**	**Ref No:**

What further ACTION is required to reduce the risk
In extreme dry weather conditions consideration of dampening the product to minimise the risk of producing airborne dust.
Please see document reference: SOP DUST CONTROL SOP019

Action to be implemented by:	**Target Date:**	**Completed Date:**
Paul Alexander	30 June 2022	14 July 2022

Initial assessment completed by:	**Name:**	**Signature:**	**Date:**
Assisted by: Jamie McAllen			

Assessment review:	**Date of first review:**

Assessment review completed by:	**Name:**	**Signature:**	**Date:**

Reason for review:	Annual Review:		Changes:		Accident/Incident:	
Comments:						

Assessment review completed by:	**Name:**		**Signature:**		**Date:**	
Reason for review:	Annual Review:		Changes:		Accident/Incident:	
Comments:						

Assessment review completed by:	**Name:**		**Signature:**		**Date:**	
Reason for review:	Annual Review:		Changes:		Accident/Incident:	
Comments:						

Assessment review completed by:	**Name:**		**Signature:**		**Date:**	
Reason for review:	Annual Review:		Changes:		Accident/Incident:	
Comments:						

PDA PLASTICS LTD SITE MANAGEMENT PROCEDURE		SMP007 DUST CONTROL	
Created on: 27th June 2022	**Managing Director**	**Production Supervisor**	**Site Management**
Updated 14th July 2022	**Paul Alexander**	**Tony Cattini**	**Next review due: July 2023**

No	Operating Procedures	Key Points/Hazards/Tools
1.0	Dust control may be required during particularly dry and or windy weather conditions.	During periods of dry and windy conditions or where necessary operational areas may need to be dampened to control dust emissions by use of a hose pipe or pressure washer.
1.1	An operation may be stopped If excessive airborne dust caused.	Measures will be put in place to control the dust and airborne particles.
2.0	If Air born dust is noticed. The Weighbridge office must be notified.	Operational staff should respond immediately by controlling the airborne dust.
3.0	A note will be made in the site diary.	Weighbridge operator

	PDA Plastics Ltd	
Specific Risk Assessment: (For further information on completing this form see the separate instruction sheet)		
Reference No: ERA-03	ERA Revision:	

Hazard - Assessment: *[Subject being assessed e.g. Use of a machine, A work area, Cash handling, etc]*

Waste from the shredding, size reduction and processing of plastic window frame material. Leakage of fuel and oils from site plant and vehicles.

Location / Work Area	*Whole site*

Risks Identified *(e.g. Hazard / Oil spillage-Risk / Serious injury due to slips and falls).*
Use your general risk assessments supplied, to assist you with the identification of your hazards.

Land contamination.

Particulates (micro plastics) and oils getting into site drainage contaminating waste water, river, and marine life/food chain.

Potential Receptors Identified

Potentially sensitive receptors include: Land contamination; Surface water and Ground water (rain runoff); Sewage plant; Marine life.

*General site drainage goes directly to foul sewer * please see further actions below*

Persons at Risk *(enter a ✓ in the box of those affected)*			
Employees		*Young Persons (Under 18 years /individual assessment)*	
Contractors/Visitors/Customers		*Pregnant Worker (individual assessment required)*	
General Public		*Others (e.g. Disabled Workers)*	Environment

Existing Risk Controls *(e.g. Protective clothing, Training, Preventative maintenance, Guarding, Signage)*

The site has a solid concrete base.

Toilet and welfare facility have a built in above ground cess tank that is monitored by the maintenance department and pumped out by specialist contractors (approximately every 25 days).

Metal is collected in skips for recycling by third party contractors.

Production and general Waste is contained in sacks and stored in skips. Collection is arranged when full.

Waste is removed from site by registered waste carrier. Waste transfer notes are kept on file for a minimum of 2 years. Waste Transfer note Procedure number.

All fuel/oil is stored in bunded containers. Spill kits are located close to each storage area.

Fuel is delivered by pump with auto shut off and vapour recovery.

TAKING INTO ACCOUNT THE EXISTING RISK CONTROLS. Select from the table below the likelihood of harm and the severity of the harm. *(Enter a ✓ in the relevant boxes)*

RISK EVALUATION KEY

		Consequences				
		Insignificant - 1	Minor - 2	Moderate - 3	Major - 4	Catastrophic - 5
Likelihood	Rare - 1	Low	Low	Low	Low	Medium
	Unlikely - 2	Low	Low	Medium	Medium	Medium
	Moderate - 3	Low	Medium	Medium	Medium	High
	Likely - 4	Low	Medium	Medium	High	High
	Almost Certain - 5	Medium	Medium	High	High	High

Likelihood of Harm/Injury	***Almost Certain***	**5**		***Likely***	**4**		***Moderate***	**3**		***Unlikely***	**2**		***Rare***	**1**	/
Severity of Harm/Injury	***Catastrophic***	**5**		***Major***	**4**		***Moderate***	**3**		***Minor***	**2**	/	***Insignificant***	**1**	

LIKELIHOOD OF HARM / INJURY x SEVERITY OF HARM / INJURY = RISK RATING

Risk Rating *(enter a ✓ in the relevant box below)*

	x		**=**		**Very High Risk 15+**		**Medium Risk 5-14**		**Low Risk 1-4**	/

Now you have established the risk level consider how frequently is the risk is likely to arise *(enter a ✓ in the relevant box below)*

Continual		**Frequent**		**Minimal**	

Now you have completed your initial assessment answer the question below:-

Do you consider the risk controls adequate?	**Yes**	/	**No**	

Is there any reference to additional assessments *(e.g. CoSHH and manual handling)*					
Risk Assessment:	**Ref No:**	**Risk Assessment:**	**Ref No:**	**Risk Assessment:**	**Ref No:**

What further ACTION is required to reduce the risk
**Filtering system for the yard drainage to be installed with a procedure for its cleaning and maintenance to be introduced/developed.*
Safe system of work for identifying and cleaning up potential spills from plant and vehicles. ***procedure title and number needed***
Reference to operating procedures. Update as to the design and fabrication of filters (delivery date, installation)

Action to be implemented by:	**Target Date:**	**Completed Date:**
Paul Alexander	31 July 2022	

Initial assessment completed by:	**Name:**	**Signature:**	**Date:**
Assisted by: Jamie McAllen			

Assessment review:	**Date of first review:**

Assessment review completed by:	**Name:**		**Signature:**		**Date:**	
Reason for review:	Annual Review:		Changes:		Accident/Incident:	

Comments:

Assessment review completed by:	Name:		Signature:		Date:	
Reason for review:	Annual Review:		Changes:		Accident/Incident:	
Comments:						

Assessment review completed by:	Name:		Signature:		Date:	
Reason for review:	Annual Review:		Changes:		Accident/Incident:	
Comments:						

Assessment review completed by:	Name:		Signature:		Date:	
Reason for review:	Annual Review:		Changes:		Accident/Incident:	
Comments:						

Appendix 4.

Fire Prevention Plan. SMP 013. Doc No. 009.

Written Program for PDA Plastics Ltd
Fire Prevention Plan:

Fire Prevention Plan

The following fire prevention plan is provided to assist employers and employees in complying with the requirements of the Health & Safety at Work Act 1974.

Objective:

- Background
- Assignment of Responsibility
- Plan Implementation
- Good Housekeeping
- Maintenance

Types of Hazards:

- Electrical Hazards
- Portable Heaters
- Office Fire Hazards
- Cutting, Welding, and Open Flame Work
- Flammable and Combustible Materials
- Smoking

Review:

- Program Review
- Attachments

Fire Prevention Plan Table of Contents

Fire Prevention Plan for PDA Plastics Ltd 17/07/2021

OBJECTIVE

The purpose of this Fire Prevention Plan is to eliminate the causes of fire, prevent loss of life and property by fire, and to comply with the Health & Safety at work act 1974. It provides employees with information and guidelines that will assist them in recognizing, reporting, and controlling fire hazards. (Please refer to QP05)

BACKGROUND

PDA Plastics Ltd is committed to minimizing the threat of fire to employees, visitors, and property. PDA Plastics Ltd complies with all applicable laws, regulations, codes, and good practices pertaining to fire prevention. PDA Plastics Ltd separate Emergency Action Plan spells out the procedures for responding to fires. This Fire Prevention Plan serves to reduce the risk of fires at PDA Plastics Ltd, Commissioners Road, Strood, Rochester, Kent Location in the following ways:

Identifies materials that are potential fire hazards and their proper handling and storage procedures; distinguishes potential ignition sources and the proper control procedures of those materials; describes fire protection equipment and/or systems used to control fire hazards.

Identifies persons responsible for maintaining the equipment and systems installed to prevent or control ignition of fires;(Please refer to QP05 Emergency action plan)

Identifies persons responsible for the control and accumulation of flammable or combustible material.

Describes good housekeeping procedures necessary to ensure the control of accumulated flammable and combustible waste material and residues to avoid a fire emergency and provides training to employees with regard to fire hazards to which they may be exposed.

ASSIGNMENT OF RESPONSIBILITY

Fire safety is everyone's responsibility. All employees should know how to prevent and respond to fires, are responsible for adhering to company policy regarding fire emergencies.

Managers

Management determines the PDA Plastics Ltd fire prevention and protection policies. Management will provide adequate controls to provide a safe workplace and will provide adequate resources and training to its employees to encourage fire prevention and the safest possible response in the event of a fire emergency.

Plan Administrator

Responsible Person(s) shall manage the Fire Prevention Plan for PDA Plastics Ltd, shall maintain all records pertaining to the plan. The Plan Administrator shall also:

1. Develop and administer the PDA Plastics Ltd fire prevention training program.
2. Ensure that fire control equipment and systems are properly maintained.
3. Control fuel source hazards.
4. Conduct fire risk surveys and make recommendations.

Supervisors

Supervisors are responsible for ensuring that employees receive appropriate fire safety training, and for notifying Responsible Person when changes in operation increase the risk of fire. Supervisors are also responsible for enforcing Company Name fire prevention and protection policies.

Employees

All employees shall:

1. Complete all required training before working without supervision.
2. Conduct operations safely to limit the risk of fire.
3. Report potential fire hazards to their supervisors.
4. Follow fire emergency procedures.

PLAN IMPLEMENTATION

Good Housekeeping

To limit the risk of fires, employees shall take the following precautions:

1. Minimize the storage of combustible materials.
2. Make sure that doors, hallways, stairs, and other exit routes are kept free of obstructions.
3. Dispose of combustible waste materials, in specified waste containers.
4. Use and store flammable materials in well-ventilated areas away from ignition sources.
5. Use only non-flammable cleaning products.
6. Keep incompatible (i.e., chemically reactive) substances away from each other.
7. Perform “hot work” (i.e., welding or working with an open flame or other ignition sources) in controlled and well-ventilated areas.
8. Keep equipment in good working order (i.e., inspect electrical wiring and appliances regularly and keep motors and machine tools free of dust and grease.
9. Ensure that heating units are safeguarded.
10. Report all gas leaks immediately. Responsible Person shall ensure that all gas leaks are repaired immediately upon notification.
11. Repair and clean up flammable liquid leaks immediately.
12. Keep work areas free of dust, lint, sawdust, scraps, and similar material.
13. Do not rely on extension cords if wiring improvements are needed and take care not to overload circuits with multiple pieces of equipment.
14. Ensure that required hot work permits are obtained.
15. Turn off electrical equipment when not in use.

Maintenance

Responsible Person(s) will ensure that equipment is maintained according to manufacturers' specifications. Only properly trained individuals shall perform maintenance work.

The following equipment is subject to the maintenance, inspection, and testing procedures:

1. Portable fire extinguishers and fixed extinguishing systems.
2. detection systems for smoke, heat, or flame.
3. fire alarm systems.

TYPES OF HAZARDS

The following sections address the major workplace fire hazards at PDA Plastics Ltd facilities and the procedures for controlling the hazards.

Electrical Fire Hazards

Electrical system failures and the misuse of electrical equipment are leading causes of workplace fires. Fires can result from loose ground connections, wiring with frayed insulation, or overloaded fuses, circuits, motors, or outlets.

To prevent electrical fires, employees shall:

1. Make sure that worn wires are replaced.
2. Use only appropriately rated fuses.
3. Never use extension cords as substitutes for wiring improvements.
4. Use only approved extension cords.
5. Check wiring in hazardous locations where the risk of fire is especially high.
6. Check electrical equipment to ensure that it is either properly grounded or double insulated.
7. Ensure adequate spacing while performing maintenance.

Portable Heaters

All portable heaters shall be approved by Responsible Person. Portable electric heaters shall have tip-over protection that automatically shuts off the unit when it is tipped over. There shall be always adequate clearance between the heater and combustible furnishings or other materials.

Office Fire Hazards

Fire risks are not limited to PDA Plastics Ltd industrial facilities. Fires in offices have become more likely because of the increased use of electrical equipment, such as computers and fax machines. To prevent office fires, employees shall:

1. Avoid overloading circuits with office equipment.
2. Turn off nonessential electrical equipment at the end of each workday.
3. Keep storage areas clear of rubbish.

4. Ensure that extension cords are not placed under carpets.
5. Ensure that trash and paper set aside for recycling is not allowed to accumulate.

Cutting, Welding, and Open Flame Work Responsible Person(s) will ensure the following:

1. PDA will ensure risk assessments and method statements are supplied by contractors when hot works are to be carried out prior to any work commencing.
2. Cutting and welding are done by authorized personnel in designated cutting and welding areas whenever possible.
3. Adequate ventilation is provided.
4. Oxygen-fuel gas systems are equipped with listed and/or approved backflow valves and pressure-relief devices.
5. Cutters, welders, and helpers are wearing eye protection and protective clothing as appropriate.

Class A combustibles.

These include common combustible materials (wood, paper, cloth, rubber, and plastics) that can act as fuel and are found in non-specialized areas such as offices.

To handle Class A combustibles safely:

1. Dispose of waste daily.
2. Keep trash in metal-lined receptacles with tight-fitting covers (metal waste baskets that are emptied every day do not need to be covered).
3. Keep work areas clean and free of fuel paths that could allow a fire to spread.
4. Keep combustibles away from accidental ignition sources, such as hot plates, soldering irons, or other heat- or spark-producing devices.
5. Store paper stock in metal cabinets.
6. Store rags in metal bins with self-closing lids.
7. Do not order excessive amounts of combustibles.
8. Make frequent inspections to anticipate fires before they start.

Water, multi-purpose, dry chemical and halon 1211 are approved fire extinguishing agents for Class A combustibles.

Class B combustibles.

These include flammable and combustible liquids (oils, greases, tars, oil-based paints, and lacquers), flammable gases, and flammable aerosols.

To handle Class B combustibles safely:

1. Use only approved pumps, taking suction from the top, to dispense liquids from tanks, drums, barrels, or similar containers (or use approved self-closing valves or faucets).
2. Do not dispense Class B flammable liquids into containers unless the nozzle and container are electrically interconnected by contact or by a bonding wire. Either the tank or container must be grounded.

3. Store, handle, and use Class B combustibles only in approved locations where vapours are prevented from reaching ignition sources such as heating or electric equipment, open flames, or mechanical or electric sparks.
4. Do not use a flammable liquid as a cleaning agent inside a building (the only exception is in a closed machine approved for cleaning with flammable liquids).
5. Do not use, handle, or store Class B combustibles near exits, stairs, or any other areas normally used as exits.
6. Do not weld, cut, grind, or use unsafe electrical appliances or equipment near Class B combustibles.
7. Do not generate heat, allow an open flame, or smoke near Class B combustibles.
8. Know the location of and how to use the nearest portable fire extinguisher rated for Class B fire.

Water should not be used to extinguish Class B fires caused by flammable liquids. Water can cause the burning liquid to spread, making the fire worse. To extinguish a fire caused by flammable liquids, exclude the air around the burning liquid. The following fire-extinguishing agents are approved for Class B combustibles: carbon dioxide, multi-purpose dry chemical (ABC), halon 1301, and halon 1211. (NOTE: Halon has been determined to be an ozone-depleting substance and is no longer being manufactured. Existing systems using halon can be kept in place.)

SMOKING

Smoking is prohibited in all PDA Plastics Ltd buildings. A designated outdoor area has been defined as a smoking area.

TRAINING

Responsible Person shall present basic fire prevention training to all employees upon employment, and shall maintain documentation of the training, which includes:

1. this Fire Prevention Plan, including how it can be accessed.
2. good housekeeping practices.
3. proper response and notification in the event of a fire.
4. instruction on the use of portable fire extinguishers (as determined by company policy in the Emergency Action Plan).
5. recognition of potential fire hazards.

Supervisors shall train employees about the fire hazards associated with the specific materials and processes to which they are exposed and will maintain documentation of the training. Employees will receive this training:

A. at their initial assignment;
B. annually;
C. when changes in work processes necessitate additional training.

PROGRAM REVIEW

Responsible Person shall review this Fire Prevention Plan at least annually for necessary changes.

EC safety data sheet Recycled PVCu Region: GB

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 **Product identifier**

Trade name

PDA Plastics LTD

Identification numbers

CAS no.

1.2 **Relevant identified uses of the substance or mixture and uses advised against**

Relevant identified uses of the substance or mixture

Material for various extrusion applications

1.3 **Details of the supplier of the safety data sheet**

Address

PDA Plastics LTD

Commissioners Road,

Strood, Rochester

Kent ME2 4 ED

Telephone no.	+44 (0) 1634 714255
Fax no.	+44 (0) 7946733524

1.4 +44 (0) 7946733524

Emergency telephone number

2.1 **Classification of the substance or mixture**

Classification information

This product does not meet the classification and labelling criteria given in the Regulation (EC) No 1272/2008 (CLP).
This product does not meet the classification and labelling criteria given in the Dangerous Preparations Directive 67/548/EC (DSD)

2.2 **Label elements**

Not relevant

2.3 **Other hazards**

No data available.

SECTION 3: Composition/information on ingredients

3.1 **Substances**

Chemical characterization

Substance name plasticiser free PVC, compound

Identification numbers

CAS no.

3.2 **Mixtures**

Not applicable. The product is not a mixture.

SECTION 4: First aid measures

4.1 **Description of first aid measures**

General information

No particular safety measures required because of the compact product form. In all cases of doubt, or when sickness

symptoms persist, seek medical
attention.
After inhalation
After inhalation of fumes from overheating: Remove affected person from the immediate area. Ensure supply of fresh air.
After skin contact
No data available.
After eye contact
No data available.
After ingestion
Call a doctor.

4.2 Most important symptoms and effects, both acute and delayed

No data available.

4.3 Indication of any immediate medical attention and special treatment needed

No data available.

SECTION 5: Fire fighting measures

5.1 Extinguishing media

Suitable extinguishing media
Water spray jet; Foam; Carbon dioxide; extinguishing powder
Unsuitable extinguishing media
No data available.

5.2 Special hazards arising from the substance or mixture

In the event of fire, the following can be released: Carbon monoxide (CO); Carbon dioxide (CO2); Hydrogen chloride (HCl)

5.3 Advice for fire-fighters

Use self-contained breathing apparatus. Wear protective clothing.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel
Refer to protective measures listed in sections 7 and 8. Ensure adequate ventilation. Avoid dust formation.
For emergency responders
No data available. Personal protective equipment (PPE) - see Section 8.

6.2 Environmental precautions

Do not discharge into the drains/surface waters/groundwater.

6.3 Methods and material for containment and cleaning up

Take up mechanically. Send in suitable containers for recovery or disposal.

6.4 Reference to other sections

No data available.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling
Provide good ventilation of working area (local exhaust ventilation, if necessary). If workplace exposure limits are exceeded, respiratory protection approved for this particular job must be worn.

General protective and hygiene measures
Do not eat, drink or smoke during work time. Keep away from foodstuffs and beverages. Remove soiled or soaked clothing immediately. Wash hands before breaks and after work. Do not inhale dust.

Advice on protection against fire and explosion
Keep away from sources of heat and ignition.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions
Keep container tightly closed and dry in a cool, well-ventilated place. Protect from heat and direct sunlight.

Requirements for storage rooms and vessels
Containers which are opened must be carefully resealed and kept upright to prevent leakage. Always keep in containers of same material as the original one.

Advice on storage assembly
None known

7.3 Specific end use(s)
No data available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values

No	Substance name	CAS no.	EC no.
1	Polyvinyl chloride	9002-86-2	

List of approved workplace exposure limits (WELs) / EH40

Polyvinyl chloride total inhalable dust		
TWA	10	mg/m³

List of approved workplace exposure limits (WELs) / EH40

Polyvinyl chloride respirable dust		
TWA	4	mg/m³

8.2 Exposure controls

Appropriate engineering controls
Provide sufficient ventilation during thermal processing of this product.

Personal protective equipment

Respiratory protection
If workplace exposure limits are exceeded, a respiration protection approved for this particular job must be worn. In case of dust, aerosol and mist formation, take appropriate measures for breathing protection in the event workplace threshold values are not specified.

Eye / face protection
Safety glasses with side protection shield (EN 166)

Hand protection
In case of intensive contact, wear protective gloves (EN 374). Before use, the protective gloves should be tested in any case for its specific work-station suitability (i.e. mechanical resistance, product compatibility and antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves. Protective gloves shall be replaced immediately when physically damaged or worn. Design operations thus to avoid permanent use of protective gloves.

Other
Normal chemical work clothing.

Environmental exposure controls
No data available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form/Colour
Powder/Granules
Various, depending on coloration

Odour
odourless

Odour threshold
No data available

pH value
No data available

Boiling point / boiling range
No data available

Melting point / melting range
No data available

Decomposition point / decomposition range

Value	>	160	°C

Flash point
no data available

Auto-ignition temperature
No data available

Oxidising properties
No data available

Explosive properties
No data available

Flammability (solid, gas)
No data available
Lower flammability or explosive limits
No data available
Upper flammability or explosive limits
No data available
Vapour pressure
No data available
Vapour density
No data available
Evaporation rate
No data available
Relative density
No data available
Density

Value	appr.	1,4		g/cm³
Reference temperature	20		°C	

Bulk density

Value	appr.	0,85		g/cm³
Reference temperature	20		° C	

Solubility in water
Remarks: essentially insoluble
Solubility(ies)
No data available
Partition coefficient: n-octanol/water
No data available
Viscosity
No data available

SECTION 10: Stability and reactivity

10.1 Reactivity
No data available.
10.2 Chemical stability
No data available.
10.3 Possibility of hazardous reactions
No data available.
10.4 Conditions to avoid
None, if handled according to order.
10.5 Incompatible materials
None known.
10.6 Hazardous decomposition products
In case of fire the following can be released: Hydrogen chloride (HCl); Lead compounds

SECTION 11: Toxicological information

11.1 Information on toxicological effects
Acute oral toxicity
Remarks: No data available.
Acute dermal toxicity
Remarks: No data available.
Acute inhalational toxicity
Remarks: No data available.
Skin corrosion/irritation
Remarks: No data available.
Serious eye damage/irritation
Remarks: No data available.
Respiratory tract irritation
Remarks: No data available.
Respiratory or skin sensitisation
Remarks: No data available.

Germ cell mutagenicity
No data available
Reproduction toxicity
No data available
Carcinogenicity
No data available
STOT-single exposure
No data available

STOT-repeated exposure
No data available
Aspiration hazard
No data available
Symptoms related to the physical, chemical and toxicological characteristics
Eye contact may cause mechanical irritation through dust particles.

Delayed and immediate effects as well as chronic effects from short and long-term exposure
Inhalation of dusts may irritate the respiratory tract.

SECTION 12: Ecological information

12.1 **Toxicity**

Fish toxicity
Remarks — No data available.

Daphnia toxicity
Remarks — No data available.

Algae toxicity
Remarks — No data available.

Bacteria toxicity
Remarks — No data available.

12.2 **Persistence and degradability**

Biodegradability
Evaluation — not degradable

12.3 **Bioaccumulative potential**
No data available.

12.4 **Mobility in soil**
No data available.

12.5 **Results of PBT and vPvB assessment**
No data available.

12.6 **Other adverse effects**
No data available.

12.7 **Other information**

Other information
Do not discharge product unmonitored into the environment.

SECTION 13: Disposal considerations

13.1 **Waste treatment methods**

Product
Allocation of a waste code number, according to the European Waste Catalogue, should be carried out in agreement with the regional waste disposal company.

Packaging
Residuals must be removed from packaging and when emptied completely disposed of in accordance with the regulations for waste removal. Incompletely emptied packaging must be disposed of in the form of disposal specified by the regional disposer.

SECTION 14: Transport information

14.1 **Transport ADR/RID/ADN**
The product is not subject to ADR/RID/ADN regulations.

14.2 **Transport IMDG**
The product is not subject to IMDG regulations.

14.3 **Transport ICAO-TI / IATA**
The product is not subject to ICAO-TI / IATA regulations.

14.4 **Other information**
No data available.

14.6 **Special precautions for user**
No data available.

14.7 **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not relevant

SECTION 15: Regulatory information

15.1 **Safety, health and environmental regulations/legislation specific for the substance or mixture**

EU regulations
Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances

Remarks

Annex I, part 1 + 2: not mentioned. With regard to possibly appropriate decomposition products see Chapter 10.

15.2 **Chemical safety assessment**

No data available.

SECTION 16: Other information

Sources of key data used to compile the data sheet:

EC Directive 67/548/EC resp. 99/45/EC as amended in each case.
Regulation (EC) No 1907/2006 (REACH), 1272/2008 (CLP) as amended in each case.
EC Directives 2000/39/EC, 2006/15/EC, 2009/161/EC
National Threshold Limit Values of the corresponding countries as amended in each case.
Transport regulations according to ADR, RID, IMDG, IATA as amended in each case.
The data sources used to determine physical, toxic and ecotoxic data, are indicated directly in the corresponding chapter.

Appendix 5

Material Safety Data Sheet Doc No. 012 QP 11

EC safety data sheet Recycled PVCu Region: GB

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 **Product identifier**

Trade name

PDA Plastics LTD

Identification numbers

CAS no.

1.2 **Relevant identified uses of the substance or mixture and uses advised against**

Relevant identified uses of the substance or mixture

Material for various extrusion applications

1.3 **Details of the supplier of the safety data sheet**

Address

PDA Plastics LTD

Commissioners Road,

Strood, Rochester

Kent ME2 4 ED

Telephone no.	+44 (0) 1634 714255
Fax no.	+44 (0) 7946733524

1.4 +44 (0) 7946733524

Emergency telephone number

2.1 **Classification of the substance or mixture**

Classification information

This product does not meet the classification and labelling criteria given in the Regulation (EC) No 1272/2008 (CLP).
This product does not meet the classification and labelling criteria given in the Dangerous Preparations Directive 67/548/EC (DSD)

2.2 **Label elements**

Not relevant

2.3 **Other hazards**

No data available.

SECTION 3: Composition/information on ingredients

3.1 **Substances**

Chemical characterization

Substance name plasticiser free PVC, compound

Identification numbers

CAS no.

3.2 Mixtures

Not applicable. The product is not a mixture.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

No particular safety measures required because of the compact product form. In all cases of doubt, or when sickness symptoms persist, seek medical attention.

After inhalation

After inhalation of fumes from overheating: Remove affected person from the immediate area. Ensure supply of fresh air.

After skin contact

No data available.

After eye contact

No data available.

After ingestion

Call a doctor.

4.2 Most important symptoms and effects, both acute and delayed

No data available.

4.3 Indication of any immediate medical attention and special treatment needed

No data available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray jet; Foam; Carbon dioxide; extinguishing powder

Unsuitable extinguishing media

No data available.

5.2 Special hazards arising from the substance or mixture

In the event of fire, the following can be released: Carbon monoxide (CO); Carbon dioxide (CO_2); Hydrogen chloride (HCl)

5.3 Advice for firefighters

Use self-contained breathing apparatus. Wear protective clothing.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Refer to protective measures listed in sections 7 and 8. Ensure adequate ventilation. Avoid dust formation.

For emergency responders

No data available. Personal protective equipment (PPE) - see Section 8.

6.2 Environmental precautions

Do not discharge into the drains/surface waters/groundwater.

6.3 Methods and material for containment and cleaning up

Take up mechanically. Send in suitable containers for recovery or disposal.

6.4 Reference to other sections

No data available.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Provide good ventilation of working area (local exhaust ventilation, if necessary). If workplace exposure limits are exceeded, respiratory protection approved for this particular job must be worn.

General protective and hygiene measures

Do not eat, drink or smoke during work time. Keep away from foodstuffs and beverages. Remove soiled or soaked clothing immediately. Wash hands before breaks and after work. Do not inhale dust.

Advice on protection against fire and explosion
Keep away from sources of heat and ignition.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions
Keep container tightly closed and dry in a cool, well-ventilated place. Protect from heat and direct sunlight.

Requirements for storage rooms and vessels
Containers which are opened must be carefully resealed and kept upright to prevent leakage. Always keep in containers of same material as the original one.

Advice on storage assembly
None known

7.3 Specific end use(s)
No data available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values

No	Substance name	CAS no.	EC no.
1	Polyvinyl chloride	9002-86-2	

List of approved workplace exposure limits (WELs) / EH40

Polyvinyl chloride total inhalable dust		
TWA	10	mg/m³

List of approved workplace exposure limits (WELs) / EH40

Polyvinyl chloride respirable dust		
TWA	4	mg/m³

8.2 Exposure controls

Appropriate engineering controls
Provide sufficient ventilation during thermal processing of this product.

Personal protective equipment

Respiratory protection
If workplace exposure limits are exceeded, a respiration protection approved for this particular job must be worn. In case of dust, aerosol and mist formation, take appropriate measures for breathing protection in the event workplace threshold values are not specified.

Eye / face protection
Safety glasses with side protection shield (EN 166)

Hand protection
In case of intensive contact, wear protective gloves (EN 374). Before use, the protective gloves should be tested in any case for its specific work-station suitability (i.e. mechanical resistance, product compatibility and antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves. Protective gloves shall be replaced immediately when physically damaged or worn. Design operations thus to avoid permanent use of protective gloves.

Other
Normal chemical work clothing.

Environmental exposure controls
No data available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form/Colour
Powder/Granules
Various, depending on coloration

Odour
odourless

Odour threshold
No data available

pH value
No data available

Boiling point / boiling range
No data available

Melting point / melting range

No data available

Decomposition point / decomposition range

Value	>	160	°C

Flash point

no data available

Auto-ignition temperature

No data available

Oxidising properties

No data available

Explosive properties

No data available

Flammability (solid, gas)

No data available

Lower flammability or explosive limits

No data available

Upper flammability or explosive limits

No data available

Vapour pressure

No data available

Vapour density

No data available

Evaporation rate

No data available

Relative density

No data available

Density

Value	appr.	1,4	g/cm³
Reference temperature	20	°C	

Bulk density

Value	appr.	0,85	g/cm³
Reference temperature	20	° C	

Solubility in water

Remarks	essentially insoluble

Solubility(ies)

No data available

Partition coefficient: n-octanol/water

No data available

Viscosity

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available.

10.2 Chemical stability

No data available.

10.3 Possibility of hazardous reactions

No data available.

10.4 Conditions to avoid

None, if handled according to order.

10.5 Incompatible materials

None known.

10.6 Hazardous decomposition products

In case of fire the following can be released: Hydrogen chloride (HCl); Lead compounds

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity

Remarks No data available.

Acute dermal toxicity

Remarks No data available.

Acute inhalational toxicity

Remarks No data available.

Skin corrosion/irritation

Remarks No data available.

Serious eye damage/irritation

Remarks No data available.

Respiratory tract irritation

Remarks No data available.

Respiratory or skin sensitisation

Remarks No data available.

Germ cell mutagenicity
No data available
Reproduction toxicity
No data available
Carcinogenicity
No data available
STOT-single exposure
No data available
STOT-repeated exposure
No data available
Aspiration hazard
No data available
Symptoms related to the physical, chemical and toxicological characteristics
Eye contact may cause mechanical irritation through dust particles.
Delayed and immediate effects as well as chronic effects from short and long-term exposure
Inhalation of dusts may irritate the respiratory tract.

SECTION 12: Ecological information

12.1 **Toxicity**

Fish toxicity
Remarks — No data available.

Daphnia toxicity
Remarks — No data available.

Algae toxicity
Remarks — No data available.

Bacteria toxicity
Remarks — No data available.

12.2 **Persistence and degradability**

Biodegradability
Evaluation — not degradable

12.3 **Bioaccumulative potential**
No data available.

12.4 **Mobility in soil**
No data available.

12.5 **Results of PBT and vPvB assessment**
No data available.

12.6 **Other adverse effects**
No data available.

12.7 **Other information**

Other information
Do not discharge product unmonitored into the environment.

SECTION 13: Disposal considerations

13.1 **Waste treatment methods**

Product
Allocation of a waste code number, according to the European Waste Catalogue, should be carried out in agreement with the regional waste disposal company.

Packaging
Residuals must be removed from packaging and when emptied completely disposed of in accordance with the regulations for waste removal. Incompletely emptied packaging must be disposed of in the form of disposal specified by the regional disposer.

SECTION 14: Transport information

14.1 **Transport ADR/RID/ADN**
The product is not subject to ADR/RID/ADN regulations.

14.2 **Transport IMDG**
The product is not subject to IMDG regulations.

14.3 **Transport ICAO-TI / IATA**
The product is not subject to ICAO-TI / IATA regulations.

14.4 **Other information**
No data available.

14.6 **Special precautions for user**
No data available.

14.7 **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not relevant

SECTION 15: Regulatory information

15.1 **Safety, health and environmental regulations/legislation specific for the substance or mixture**

EU regulations

Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances

Remarks Annex I, part 1 + 2: not mentioned. With regard to possibly appropriate decomposition products see Chapter 10.

15.2 **Chemical safety assessment**

No data available.

SECTION 16: Other information

Sources of key data used to compile the data sheet:

EC Directive 67/548/EC resp. 99/45/EC as amended in each case.
Regulation (EC) No 1907/2006 (REACH), 1272/2008 (CLP) as amended in each case.
EC Directives 2000/39/EC, 2006/15/EC, 2009/161/EC
National Threshold Limit Values of the corresponding countries as amended in each case.
Transport regulations according to ADR, RID, IMDG, IATA as amended in each case.
The data sources used to determine physical, toxic and ecotoxic data, are indicated directly in the corresponding chapter.

Appendix 6.

Quality Management Procedure QP 12. Doc 008.

The QMS contains a number of procedures that cover the implementation of the EMS, waste acceptance, site management and emergencies. Records to be produced in accordance with these procedures are provided in the QMS as forms. These completed forms provide records that evidence the implementation of the QMS. The following list details procedures that are included in the QMS;

Implementation

- Environmental Training, Awareness and Competence
- Roles and Responsibilities
- Reviewing and Auditing Documentation
- Compliance with Legal requirements

Waste Acceptance and Storage

- Waste Acceptance
- Waste Classification
- Waste Rejection
- Waste Storage & Handling

Site Management

- Fuel & Oil Storage

- Refuelling of Plant / Equipment
- Maintenance • Housekeeping, Litter, Pest & Vermin Control
- Site Security
- Recycling Operations
- Removal of Waste

Environmental Protection

- Dust Fibres and Particulate (implementation of the Dust Management Plan)
- Noise Control (implementation of the Noise Management Plan)
- Odour Control
- Surface Water Management

Emergency Provisions

- Environmental Accidents /Incidents / Complaints
- Near Miss Reporting
- Spill Response
- Flood Management
- Utility / Equipment Failure
- Fire Prevention (implementation of the Fire Prevention Plan)

Reporting

- Waste Returns
- Notifications to the Environment Agency

(This list is not exhaustive.)

Please refer to the QMS Manual for full detail.

Appendix 7 **(Doc060/QP13)**

List of Wastes

- 07 02 13 Waste plastic
- 12 01 05 Plastics shavings and turnings
- 15 01 02 Plastic packaging (to comprise of PVC based window frames only)
- 17 02 03 Plastic (to comprise of PVC based window frames only)
- 19 12 04 Plastic and rubber (to comprise of PVC based window frames only)
- 20 01 39 Plastics (to comprise of PVC based window frames only)
- 20 03 01 Mixed municipal wastes (to comprise of PVC based window frames only)

Appendix 8

Document Index by Document Number

Doc No.	Title	SOP	SMP	QP	Drawing No.
001	NOT USED				
002	B4 Table 1				
003	Site Layout drawing				PDA 6
004	Air Assessment Report (B4)		012		
005	Env. Risk Assessment Noise (B4)		010		
006	Env. Risk Assessment Dust (B4)		009		
007	Env. Risk Assessment Drainage		011		
008	PDA Quality Management System (QMS)			12	
009	Fire Prevention Plan (FPP) (B4)		013		
010	Environmental Policy			01	

011	Management review meeting agenda			02	
012	MSDS			11	
013	Quality Control			03	
014	Customer & Environmental feedback			04	
015	Emergency Plan			05	
016	Control of non-conforming products			06	
017	Operational document guidance			07	
018	Ordinance survey map				PDA 4
019	Health Surveillance			08	
020	Staff training records		008		
021	Issue of PPE		003		
022	Site Map of Activities				PDA 1
023	Site Map. Location of Emergency Equipment etc.				PDA 2
024	Site Map Drainage Plan				PDA 3
025	Waste Storage Plan			09	
026	Accident Prevention & Management Plan			10	
027	Granulator	1			
028	Colour Separator	2			
029	Float Sink	3			
030	Pulveriser	4			
031	Fork Lifting	5			
032	Telehandler	6			
033	Granulator blade change	7			
034	Loading & unloading lorry's	8			
035	Post shredding consumer line	9			
036	Crane usage	10			
037	Weighbridge operation	11			
038	Accidents - Reporting	12			
039	NOT USED				
040	Health & Safety	14			
041	Fuel & Oil storage	15			
042	Skip replacement	16			
043	Cess Tank monitoring	17			
044	Fuel and oil spills	18			
045	Dust control (Yard)		007		
046	Machinery breakdown - repair	20			
047	Incoming Waste contingency plan	21			

048	Vehicles on site	22			
049	Product spillage	23			
050	SOP guidance	24			
051	Noise		006		
052	Personal Protective Equipment (PPE)		004		
053	Visitors to site		001		
054	Site Diary		002		
055	Duty of Care checks		003		
056	Contractors on site		005		
057	Air & Dust Report		012		
058	Site Condition Report				
059	Non technical Summary				
060	List of Wastes			13	
061	Site Map- Places of interested				PDA 5

Document index by Site Operations Plan (SOP) No.

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2	Colour Separator	028	
3	Float Sink	029	
4	Pulveriser	030	
5	Fork Lifting	031	
6	Telehandler	032	
7	Granulator blade change	033	
8	Loading & unloading lorry's	034	
9	Post shredding consumer line	035	
10	Crane usage	036	
11	Weighbridge operation	037	
12	Accidents - Reporting		
13	NOT USED		
14	Health & Safety		
15	Fuel & Oil storage		
16	Skip replacement		
17	Cess Tank monitoring		
18	Fuel and oil spills		
19	Dust control (Yard)		
20	Machinery breakdown - repair		
21	Incoming Waste contingency plan		
22	Vehicles on site		
23	Product spillage		
24	SOP guidance		

25	Noise		

Document Index by Quality Plan (QP) No.

Quality Plan	Title	Doc No.	Page
01	Environmental Policy	010	
02	Management review meeting agenda	011	
03	Quality Control	013	
04	Customer & Environmental feedback	014	
05	Emergency Plan	015	
06	Control of non-conforming product	016	
07	Operational Documents guidance	017	
08	Health Surveillance	019	
09	Waste Storage Plan	025	
10	Accident Prevention & Management Plan	026	
11	Materials Safety Data Sheet (MSDS)	012	
12	PDA Quality Management System	008	
13	List of Wastes	060	

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SMP	Title	Doc No.	Page
001	Visitors to site	053	
002	Site Diary	054	
003	Duty of Care checks	055	
004	Personal Protective Equipment (PPE)	052	
005	Contractors on site	056	
006	Noise Control	051	
007	Dust Control (Yard)	045	
008	Staff Training Records	020	
009	Env. Risk Assessment Dust (B4)	006	
010	Env. Risk assessment Noise (B4)	005	
011	Env. Risk Assessment Drainage	007	
012	Air Assessment report (B4)	004	
013	Fire Prevention Plan (B4)	009	
014	Disaster Emergency Plan		

Document Index by Drawing Number

Drawing N0.	Description	Doc No.	Page
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