



# Odour Management Plan

Sedamyl UK Ltd

Selby

August 2022

## Contents Page

Contents Page.....	2
Table List.....	3
Figure List .....	3
Document History .....	3
1 Introduction .....	4
1.1 Purpose .....	4
1.2 Scope and Exclusions.....	4
1.3 Definitions .....	4
1.4 Responsibilities .....	4
1.5 Training.....	5
2 Odour Assessment .....	5
2.1 Site Location .....	5
2.2 Identification of Nearby Sensitive Receptors and Local Wind / Weather Conditions.....	6
2.3 Odour Identification / Source.....	9
2.4 Pathway.....	11
2.5 Receptor.....	11
2.6 Impacts.....	12
3 Complaints and Monitoring.....	12
3.1 Complaints .....	13
3.2 Monitoring .....	14
3.2.2 Off site checks .....	16
4 Odour Control Procedure.....	16
4.1 Abnormal Operations .....	17
5 Document Control and Review .....	18
Appendix 1 Complaints 2020 onwards .....	19

## Table List

Table 1 - Sensitive Receptors

Table 2 - Potential sources of odour

Table 3 - Source, pathway, receptor

Table 4 – Odour Control Measures

## Figure List

Figure 1 - Site location

Figure 2 - Receptor location

Figure 3 – Predominant average hourly wind direction – Selby

Figure 4 - Predominant average hourly wind speed – Selby

Figure 5 – Potential sources of odour locations

Figure 6 Odour Sampling locations

## Document History

No.	Date	Section	Amendments
1.0	19/01/2020	-	First issue
2.0	04/02/2020	All	H5 amendments
3.0	05/11/2021	2,3,4	Schedule 5 response update
4.0	25/03/2022	1,2,3	Schedule 5 Response update
5.0	11/08/2022	2.3	Updated VOC emission points

# 1 Introduction

## 1.1 Purpose

SEDAMYL shall operate and maintain this Odour Management Plan (in accordance with their Permit, ref. EPR/KP3030TZ) in order to prevent, or where this is not possible, minimise the nuisance potential of odour emissions from the Selby site. The location of the site is such that potentially sensitive receptors lie within 1m of the site boundary.

## 1.2 Scope and Exclusions

This document is applicable to all site activities including those carried out by employees and sub-contractors working on-site. The document is to be used by Sedamyl UK Ltd, Selby's HSE Department.

The OMP is a working document with the specific aim of ensuring that:

- Odour impact is considered as part of routine inspections.
- Odour is primarily controlled at source by good operational practices, including management control measures; and
- All appropriate measures are taken to prevent or, where that is not reasonably practicable, to reduce odorous emissions to air from the factory at nearby receptors

It is not considered necessary to undertake a formal environmental impact assessment for odour as there have been no historic odour complaints received.

## 1.3 Definitions

Sedamyl UK Ltd, Selby shall be known as **SEDAMYL** throughout the remainder of this document.

**Competent person** is someone who has received the necessary training or has a recognised qualification and/or skill to carry out the task correctly.

## 1.4 Responsibilities

SEDAMYL HSE Department

- Responsible for overall delivery of the environmental commitments of the factory whilst undertaking normal business operations and related activities
- Liaison with environmental regulators such as the EA and other regulatory bodies in the event of an emergency.
- Assess and plan measures to minimise potential odours escaping site.
- Monitors site activities and ensures control measures are in place, including odour control.
- Keep the OMP up to date.
- Training relevant staff in responsibilities relevant to odour management.

All Staff

- Responsible for ensuring that good housekeeping measures are implemented at all time.

- Report any unexpected odours on site.

### 1.5 Training

Relevant staff will be trained as part of the site’s EMS in odour identification and sniff testing procedure SED ESOP-008 Internal Odour and Noise Monitoring procedure on a 3 yearly basis.

All staff responsible for waste management, effluent and external activities will also be trained in odour management through ENV-TBT-014 Odour Management and ENV-TBT-015 Environmental Complaints.

## 2 Odour Assessment

### 2.1 Site Location

SEDAMYL is located off Denison Road, Selby, North Yorkshire. The approximate National Grid Reference (NGR) of the site is 462900, 431800 and shown in black/yellow below. - Figure 1.



Figure 1 –Site location

The site operates a 24/7 Potable Ethanol Alcohol, Refined Starch and Vital Wheat Gluten production plant which includes Wheat intake and storage, dry mill, wet mill, gluten dryer, starch dryer, fermentation, distillery, boilers and gas turbines, water treatment and water waste treatment. The plant processes local wheat to produce

# Odour Management Plan

Doc. Ref.	SED-C3-3b-2
Date	11/08/22
Approved	MFB

Grain Neutral Alcohol, native and modified dry starch for the UK market, through co-products from dry milling (bran), wet separation (gluten) and distillation (stillage).

The site is surrounded by other industrial and commercial properties and the closest residential property is located about 460m Northwest of the site.

The site is located next to the River Ouse and the boundary flood defence runs along the site's North perimeter. The River Ouse is designated as a Site of Special Scientific Interest (SSSI) and Ramsar Site. Some areas of the river are also designated as Special Protection Areas (SPA).

Sensitive receptors within approximately 1km radius of the site are listed in Table 1 below. The receptors are also marked on the receptor locations plan.

## 2.2 Identification of Nearby Sensitive Receptors and Local Wind / Weather Conditions

Some receptors are generally more sensitive than others to odour. Domestic residences, leisure facilities, offices, schools or hospitals can be highly sensitive to odour potential and will generally be more sensitive than industrial or commercial operations. Additionally, some individuals will be less tolerant of odours than others due to heightened sensitivity, through for example, a medical condition, or exposure experience, e.g. recognising odours or experiencing regular exposure. To date the site has received no odour complaints.

The locations for this management plan have been chosen where you could reasonably expect members of the public to be regularly present for a period of 1 hour or more. X, Y and Z coordinates are given for each chosen receptor in Table 1, where Z is the height from street level in metres (m). The location of the chosen receptors are shown in relation to the site in Figure 2.

Table 1 provides a list of potential sensitive receptors near to the SEDAMYL Selby site.

Receptor Reference	Receptor name	X	Y	Z	Approximate Distance from Site	General Direction from Site	Potential susceptibility of Receptor
R1	Cherry Tree Orchard Farm	463088	431955	1.5	104m	N	Low
R2	Selby College	462630	431505	1.5	290m	SW	Medium
R3	Residential property off Dennison Road	462641	431811	1.5	170m	W	High
R4	Residential property off Carr Street	462549	431901	1.5	230m	W	High

# Odour Management Plan

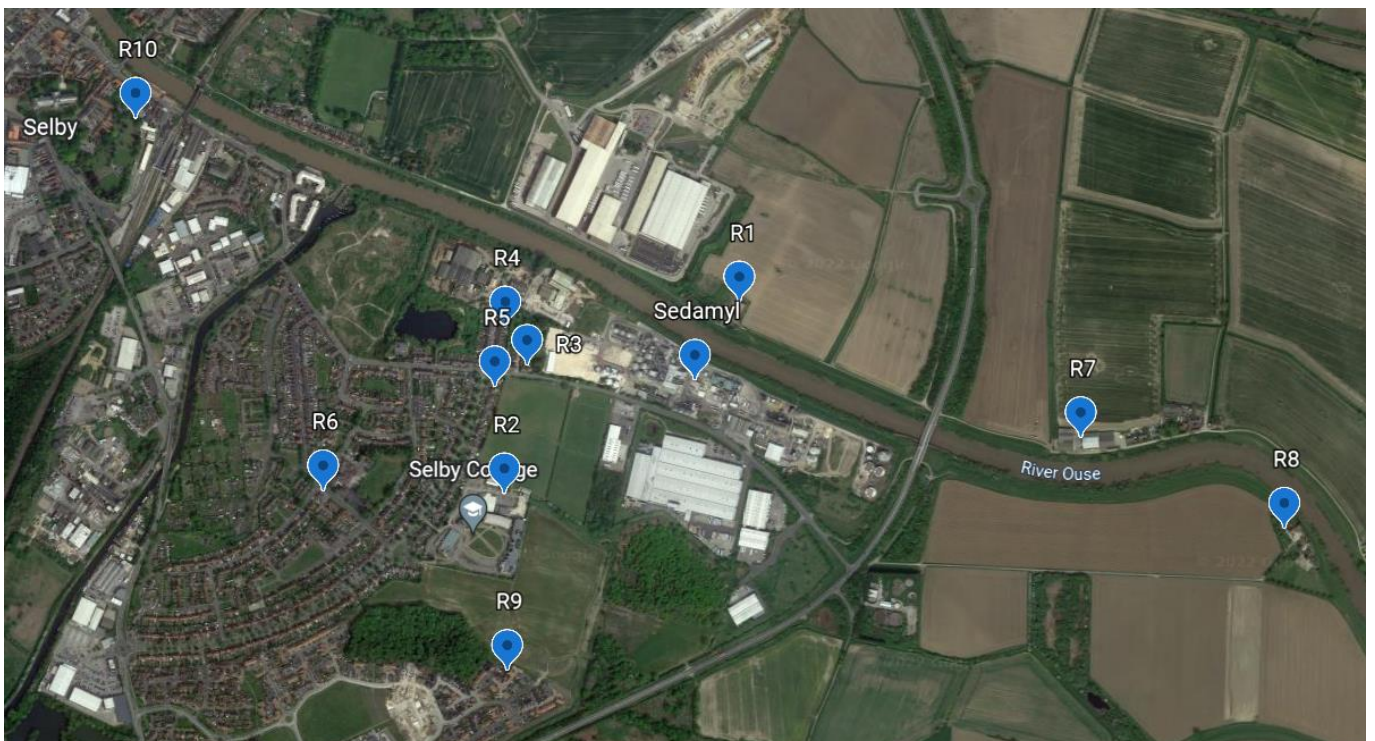
Doc. Ref. SED-C3-3b-2

Date 11/08/22

Approved MFB

R5	Residential property off Abbots Road	462556	431742	1.5	250m	W	High
R6	Barwick Parade Community Primary School	462255	431579	1.5	675m	WSW	High
R7	Newlands Cottages	463964	431690	1.5	410m	E	High
R8	Roscarrs Farm	464324	431499	1.5	925m	ESE	Medium
R9	Staynor Hall Cottages	462415	431142	1.5	760m	SW	High
R10	Selby AQMA	461671	432404	1.5	1.2km	WNW	Low

**Table 1 - Sensitive Receptors**



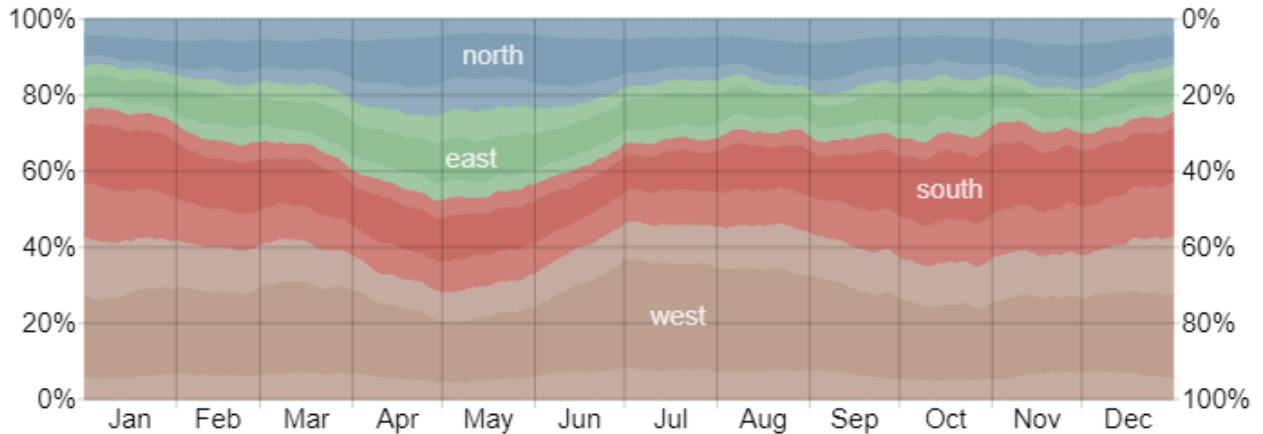
**Figure 2 – Receptor Locations**

Local topography can affect the pattern of wind flow and distribution, however the site is located on a largely flat area of land, evidenced by the presence of the River Ouse to the North and East of the site.

Although the wind speed and direction are the most significant, climatic conditions likely to affect the dispersion of odours, the effects of temperature and precipitation should also be considered. Higher ambient temperatures may increase the odour potential during the processes which use temperature. Generally, the effect of rainfall on the potential for odour emissions from the site can be positive, with the effects of wet deposition helping to reduce the distance that solid or gaseous particles can travel in the air. Natural dispersion and therefore dilution of odour in the air, reduces the impact of any odour with distance from the source.

Taking both the prevailing wind direction (Figure 3) (West) and the generally localised nature of the odour into account, it is anticipated that, although any local receptor or individual could be affected by an odour release from the site operations the most likely impacted receptors would be R1 or R7 on 'Table 1' as they are either very close or in the prevailing winds path to the North and East of the site. However, R1 is an uninhabitable property and although R7 consist of cottages it would be expected to have a relatively low sensitivity when compared to other residential areas due to distance and this is backed up by the fact that there are no historic complaints to the site over the previous 24 months.

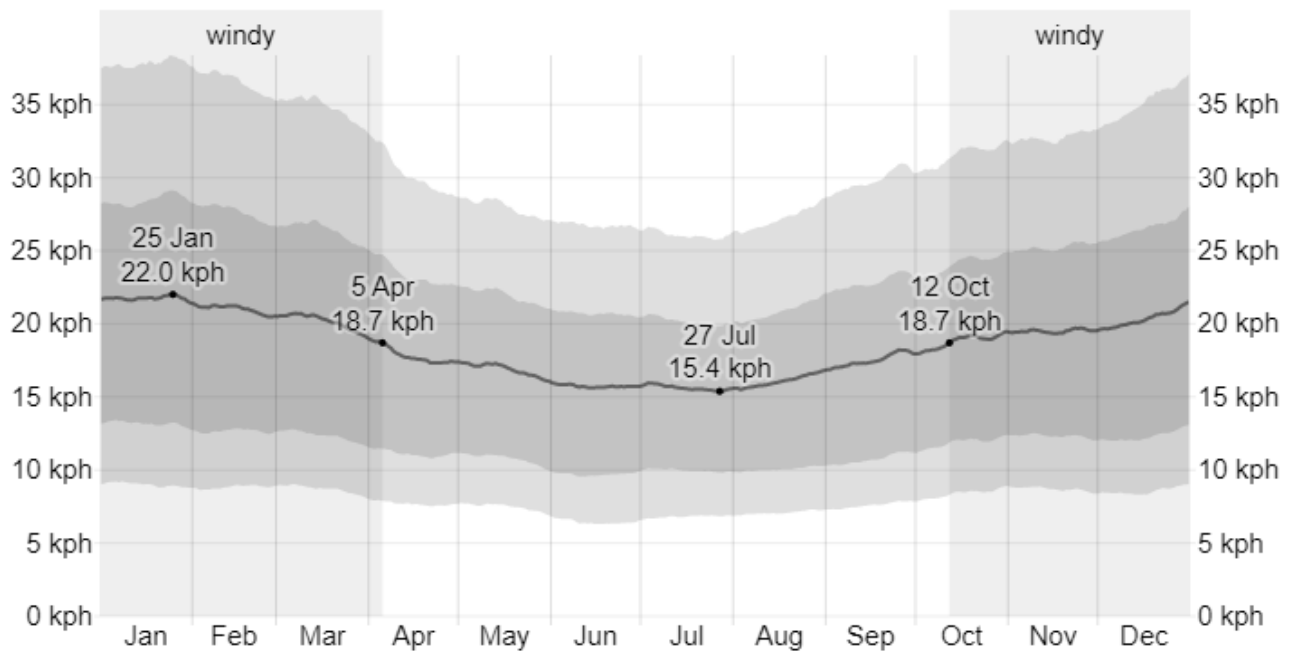
Weather data is taken from weatherspark.com which compiles weather data, including cloud cover, precipitation, wind speed and direction, and solar flux from NASA's [MERRA-2 Modern-Era Retrospective Analysis](#). This reanalysis combines a variety of wide-area measurements in a state-of-the-art global meteorological model to reconstruct the hourly history of weather throughout the world on a 50-kilometer grid.



**Figure 3 - Predominant average hourly wind direction – Selby** (The percentage of hours in which the mean wind direction is from each of the four cardinal wind directions, excluding hours in which the mean wind speed is less than 1.6 kph. The lightly tinted areas at the boundaries are the percentage of hours spent in the implied intermediate directions (northeast, southeast, southwest, and northwest)

The meteorological information in Figure 4 shows the windier part of the year lasts for 5.8 months, from October to April, with average wind speeds of more than 11.6 miles per hour with the calmer time of year lasts for 6.2 months, from March to September.





**Figure 4 - Predominant average hourly wind speed – Selby** (The average of mean hourly wind speeds (dark grey line), with 25th to 75th and 10th to 90th percentile bands.)

This information also tells us that, more offensive odours, such as organic odour from the effluent plant will be less likely to escape from site as the windier parts of the year are also the cooler months. Due to the nature of the site’s activities and effluent, the cooler temperature will mean that the odour is less potent.

### 2.3 Odour Identification / Source

The potential for malodours are considered to be fairly low from SEDAMYL. The processes are contained within existing buildings and there are very little or no areas where either the raw material or product is not under cover or in an enclosed space. An investigation into the sources of potential odours was carried out and outlined in Table 2.

Raw material being delivered to the site is mostly dry in nature (flour, sugar), therefore odours generated from this are considered to be minimal. The key raw materials include wheat and other grains. The majority of the production process is carried out within sealed vessels. The production process that potentially gives rise to odours is the gluten dryer which has the potential to release VOCs. Associated odours may arise from ancillary activities such as effluent treatment.

The following table highlights the potential odour sources, odour likely to arise and it’s nature.

Source	Odour	Nature	Containment	Pattern of Release
Intake of raw materials	No discernable odour	Less Offensive	The majority of raw materials delivered to site are dry and in bulk so as to never be out in the open.	Throughout the day and night but intermittent based on delivery vehicles.

# Odour Management Plan

Doc. Ref. SED-C3-3b-2

Date 11/08/22

Approved MFB

Source	Odour	Nature	Containment	Pattern of Release
Storage of raw materials Gluten Dryer and distillery (permit emission points 19,21,58,67)	No discernable odour	Less Offensive	Inside tanks and process buildings	N/A
	VOC	Less Offensive	Emitted to air from process stack emissions and venting of storage vessels (19,21,58,67)	Expected throughout the day although not particularly odorous process
Waste storage	Organic farm grains	Moderately Offensive	All waste containers are sealed including skips.  Maximum storage of organic waste is approximately 2 20yard skips.  Waste is collected on a minimum frequency of weekly.	Expected to peak during waste receipt and other waste movement activities. Material is normally processed daily and cleaned at least daily so that no waste would be left overnight.
Effluent treatment	Organic sludge	Most Offensive	Inside effluent treatment vessels set below adjacent road level.  Maximum storage of sludge is approximately 40kt. Waste sludge is collected only when required and may only be annually at the most frequent.	Expected to peak in hot weather. Constant process and waste sludge disposed only where required.
Storage and transfer of finished products	No discernable odour	Less Offensive	Various tanks, vessels and tankers when collected.	Throughout the day and night but intermittent based on collection vehicles.

**Table 2 - Potential sources of odour**

Although the processes are limited to being contained within the building, there main extraction points located around the site which could potentially contribute to VOC odour is emission point A19 Gluten dryer, A21 Distillery Scrubber, A58 2<sup>nd</sup> Gluten Dryer and A67 2<sup>nd</sup> Distillery Scrubber.

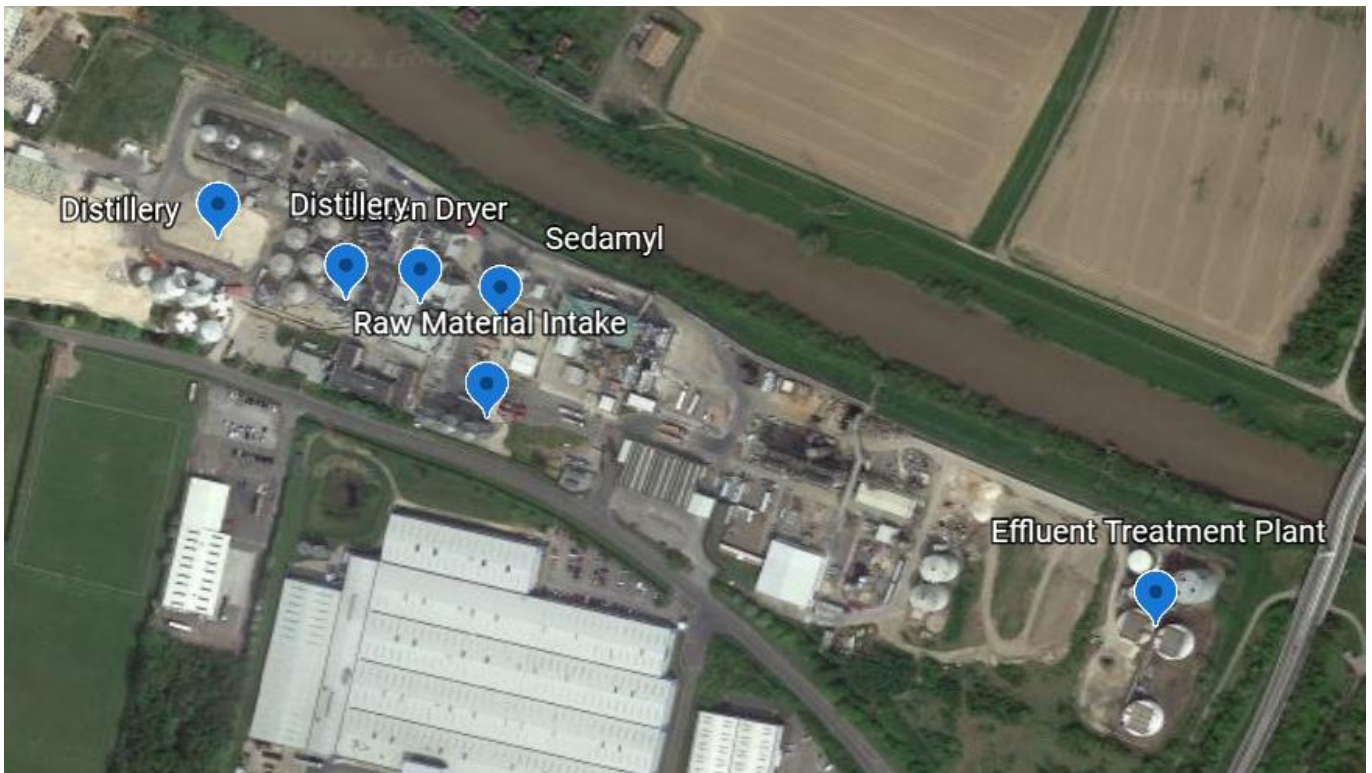


Figure 5 – Potential sources of odour locations

**2.4 Pathway**

In the event of failures of odour mitigation measures on site, it is possible that odour could be transported from the source to target receptors via the atmosphere. The level of dispersion is dependent on:

- Atmospheric stability;
- Wind Speed; and
- Wind Direction.

The greatest frequency of events involving poor odour dispersal and odour impact thus tends to occur on cool calm days and nights, when the temperature inversions block vertical dispersion. This is not to say, however, that odour impacts may not occur in other weather conditions.

**2.5 Receptor**

Malodours can have a number of effects on sensitive receptors, including:

- General annoyance
- Increased levels of stress
- Loss of amenity
- Loss of appetite and/or sleep
- Spoiling of social activities
- Increased awareness of perceived health effects; and
- Potential for loss of value to property and assets.

Receptors in the immediate vicinity of SEDAMYL's are a mixture of residential, and service in nature as stated in section 4.1.

**2.6 Impacts**

Table 3 contains an assessment of the source, pathway, receptor potential of the site.

Source	Pathway	Receptor	Probability of Exposure	Potential consequence of not managing odour	Overall risk
Intake of raw materials	Air Transport then inhalation	Local housing and amenities	Negligible	Negative impact on domicile and business activities, Spoiling of amenities	Low
Storage of raw materials	Air Transport then inhalation	Local housing and amenities	Low	Negative impact on domicile and business activities, Spoiling of amenities	Low
Gluten Dryers and Distillery	Air Transport then inhalation	Local housing and amenities	Low	Negative impact on domicile and business activities, Spoiling of amenities	Low
Waste storage	Air Transport then inhalation	Local housing and amenities	Low	Negative impact on domicile and business activities, Spoiling of amenities	Low
Effluent treatment	Air Transport then inhalation	Newlands Cottage	Low	Cause annoyance, negative view of SEDAMYL	Low
Transfer of finished products	Air Transport then inhalation	Local housing and amenities	Negligible	Loss of Amenity, Spoiling of social activities	Low

**Table 3 - Source, pathway, receptor**

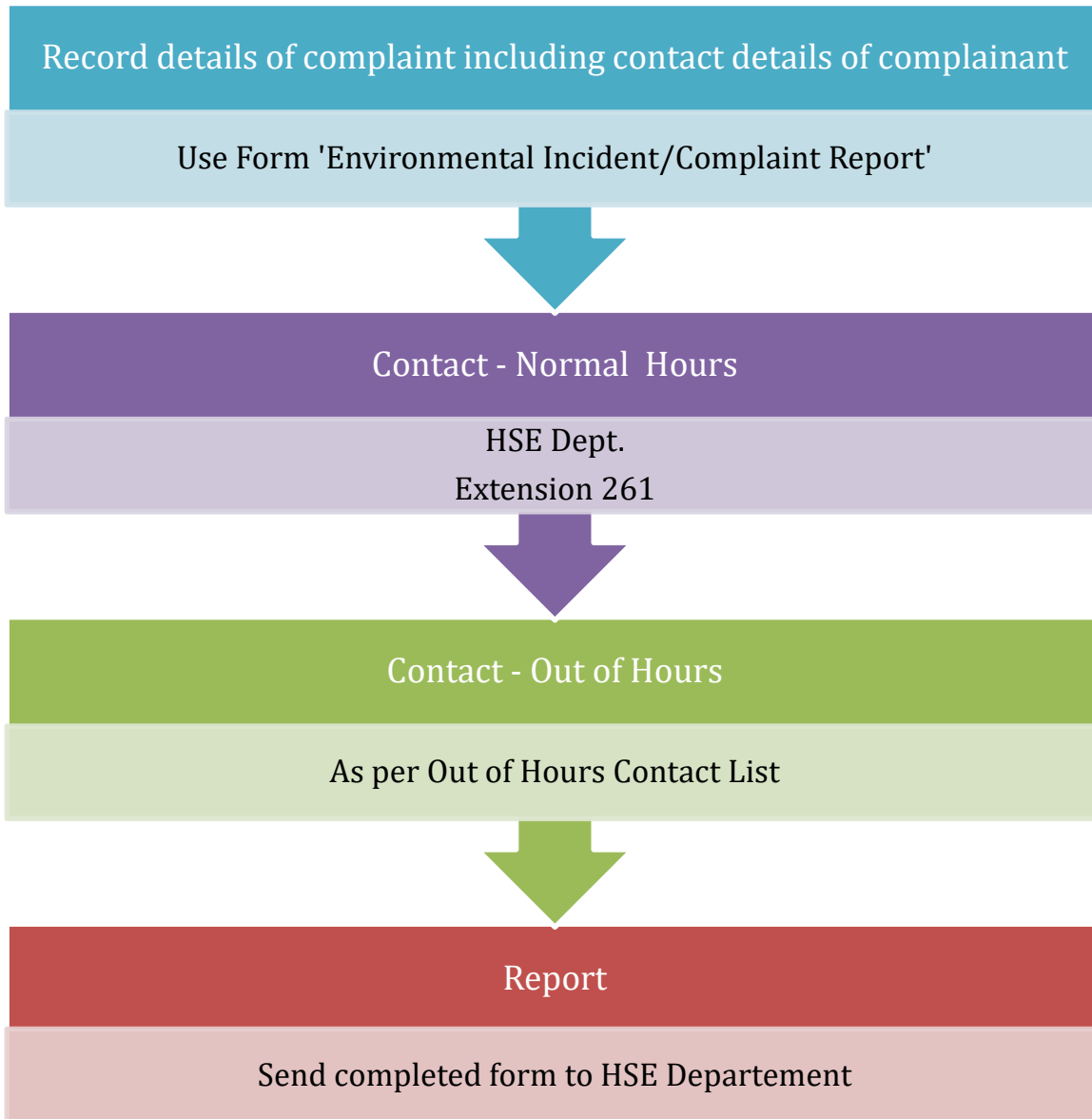
**3 Complaints and Monitoring**

The aim of the SEDAMYL site at Selby is to achieve no odorous emissions beyond the site boundary. Where this is not possible, this Odour Management Plan aims to ensure that odours escaping the site boundary are kept to a minimum and do not cause an unacceptable level of nuisance to nearby receptors.

**3.1 Complaints**

No complaints have been received in the past regarding odour.

The following process applies at all times for receiving and actioning complaints:



In the event of an odour incident or occurring on site or a complaint being received, all appropriate records will be kept in accordance with the following sections from the EMS Manual

1. Documented Information.
2. Operational Planning and Control; and
3. Monitoring, Measurement, Analysis and Evaluation.

Any odour complaint, irrespective of source and any odour issue is fully investigated, with the investigation being based around the check lists for Odour Report Form and the Odour Complaint Report Form from Appendix 1 of H4 Odour Management (Published 4 April 2011), together with the operational checks included in Tables 4.26 and 4.27 of the Food Drink and Milk Industries BREF (page 345).

## Odour Management Plan

Doc. Ref.	SED-C3-3b-2
Date	11/08/22
Approved	MFB

The investigation would also include visiting the area from where the complaint came (if known) and a check on the weather conditions at the time of the complaint, generally by the use of local weather station reporting. The investigation would include checks on all process activities at the time including intake, mixing, baking, waste management and effluent treatment. All factory activities are recorded both on manual records and by computerised records and traceability through the factory process control system.

Following odour complaints or issues the level of odour monitoring would be increased, particularly in the area where the complaint originated

Investigation will be carried out and suitable response implemented in accordance with section 8.2 of the EMS Manual, Nonconformity and Corrective Action

### 3.2 Monitoring

The following process applies at all times for monitoring odour on site:

#### Objective:

This Internal Odour and Noise Monitoring Work Instruction has been prepared to enable proactively monitoring of sources of nuisance (noise and odour) from Sedamyl UK. This helps to identify any areas requiring attention in line with the site's policy of continual improvement. The noise management aspect has been prepared to manage the issue of noise during site operations. The objective of this work instruction is to minimise the impact of noise generated from the day-to-day operation of the Selby site at the key noise receptors identified at both the site boundary and also by plant area. It also seeks to identify any unusual sources of odour which might cause nuisance to nearby properties.

#### Scope:

The assessment of odour and noise has been divided between site level inspections which take place as follows:

- Odour: on a weekly basis at the site boundary.
- Noise: on a quarterly basis at the site boundary and critical 'hotspots'..

#### Related documents:

- a. Noise and Odour Assessment (SED EF-017).
- b. Integrated Objectives and Actions Register (SED ER-003).
- c. Noise Management Map (SED EF-018).

#### Responsibilities:

**Managing Director / Deputy Managing Director:** responsible for ensuring that the requirements of this work instruction are implemented.

**Environmental Manager:** responsible for defining the internal monitoring requirements as well as weekly odour monitoring locations. Additionally, responsible for recording, collating and reporting noise monitoring data for the site and arranging suitable actions based on accumulated data.

**Health & Safety Manager:** responsible for performing and recording weekly odour checks as outlined.

#### Process/Procedure:

On a weekly basis, the H&S manager performs a tour of the site stopping at the four sites illustrated in figure 1. Sniff testing is carried out at each location and the following criteria are assessed/recorded at each site and recorded on form EF-017

- a. Test Location
- b. Date of Test
- c. Time of test
- d. Duration of Test
- e. Weather Conditions
- f. Temperature
- g. Wind velocity
- h. Wind direction
- i. Odour Intensity
- j. Intermittent or Constant
- k. Description of Odour
- l. Probable source of odour
- m. Other Comments or Observations

Temperature and wind conditions are provided by the site weather station.

At this point, odour is categorised according to the following scale:

<b>0 – No Odour</b>	<b>1 – Very Faint Odour</b>	<b>2 – Faint Odour</b>	<b>3 – Distinct Odour</b>	<b>4 – Strong Odour</b>	<b>5 – Very Strong Odour</b>	<b>6 – Extremely Strong Odour</b>
---------------------	-----------------------------	------------------------	---------------------------	-------------------------	------------------------------	-----------------------------------

If any odours reach the intensity level of 4 or above this may trigger additional corrective actions depending on the wind and weather conditions. The H&S Manager will report this to the Senior Leadership Team and decisions can then be made as to the actions to be taken.



Figure 6 Odour Sampling locations

**3.2.2 Off site checks**

Investigations would be based around the check lists for Odour Report Form and the Odour Complaint Report Form from Appendix 1 of H4 Odour Management (Published 4 April 2011) but would be reported using the Schedule 1 Form from the Permit.

In the event of any abnormal finding, the level of odour checking would be increased.

Odour assessments may also be carried out by the Environment Agency upon reception of complaints to the local officer. CAR forms would then be received by SEDAMYL and investigated thoroughly.

**4 Odour Control Procedure**

Odour emissions from the factory are categorised as “Less Offensive”. This category has been determined from H4 Odour management EA guidelines (Published 4 April 2011).

The risk of odour issues can be vastly reduced or eliminated due to the following control measures being in place or are adhered to:

Source	Control Measures
Intake of raw materials	<ul style="list-style-type: none"> <li>The majority of raw materials delivered to site are dry and in bulk so as to never be out in the open.</li> <li>All raw materials are stored within the confines of the Factory.</li> <li>The lorries are all enclosed and ensure the whole rear of the lorry is situated within the intake booth. through the plastic curtains before unloading.</li> <li>All deliveries are supervised by a competent member of SEDAMYL staff.</li> </ul>
Storage of raw materials	<ul style="list-style-type: none"> <li>Raw materials in batches are stored and moved which minimises dust and therefore odour.</li> </ul>
Gluten Dryers	<ul style="list-style-type: none"> <li>All production activities take place within the confines of the Factory.</li> <li>Extraction equipment is an integrated part of the factory process control system and are subject to regular maintenance.</li> </ul>
Waste storage	<ul style="list-style-type: none"> <li>Yard areas, waste compound, equipment, bins etc. are kept clean and tidy at all times.</li> <li>Plant is maintained as per the maintenance schedule and fully operational at all working times.</li> <li>Leaks and spills are dealt with according to Emergency Spillage procedure.</li> </ul>
Effluent treatment	<ul style="list-style-type: none"> <li>The Effluent Treatment Plant is housed within a brick buildings and is set several metres below adjacent road level which allows for shelter from wind that could spread any odour off-site.</li> </ul>



<b>Transfer of finished products</b>	<ul style="list-style-type: none"> <li>• An on-site operative is permanently stationed at the ETP in order to monitor the process and deal with any issues before they become serious.</li> <li>• All waste effluent sludge is collected as soon as required although this is usually no more frequent than annually due to the nature of the active process. Approximately 40tk stored in the process and this is only collected during normal operational hours so as to minimise the potential impact of residential property enjoyment.</li> </ul>
	<ul style="list-style-type: none"> <li>• The tankers are all integrally enclosed and venting does not lead to odour extending beyond the boundary in any significant way. The odour produced from venting is of a relatively low intensity and this is checked via the weekly sniff testing carried out on site. No complaints have every been received in relation to this.</li> </ul>

**Table 4 – Odour Control Measures**

In addition to these the following general control measures are in place on site:

- Cleaning of exhaust air is achieved by cyclones, dust separating units or bag filters. These methods of abatement are considered BAT to reduce odour emissions.
- Routine odour monitoring carried out on a weekly basis and results recorded. This should be carried out by someone who does not have high exposure to the Factory processes, as they can become complacent to odours if exposed regularly.
- All complaints taken seriously and investigated to the best of SEDAMYL ability and reported to the Environment Agency where applicable.
- An Environmental Management system is in place and is certified to ISO14001:2015. The site manager will be responsible for ensuring that odour control measures outlined are adhered to.
- Investigations are based around checklists located in the EA H4 odour management guidance document (Published 4 April 2011). On receipt of a complaint the residential area would be visited and assessed immediately or if this was not possible then on a day with the same weather conditions and approximately same time as far as reasonably practicable.

#### 4.1 Abnormal Operations

Abnormal situations may arise at the site during a breakdown or period of unplanned maintenance. However, the factory has a planned maintenance regime within their Environmental management system which covers the whole plant as well as using external specialists and an onsite maintenance team. This minimises the probability of a breakdown through good management practice. Abnormal or emergency situations to be considered include:

- Abnormal meteorological conditions.
- Breakdown of process equipment and plant;
- Staffing issues;
- Power failure; and
- Vandalism.

Where such abnormal conditions do arise that may give rise to an increased risk of odour causing a nuisance off-site, Sedamyl will ensure that increased odour monitoring takes place at the defined boundary positions for the duration of the issue. If required operations will be shut down entirely or scaled back to reduce the risk until the issue has been controlled.

## Odour Management Plan

Doc. Ref.	SED-C3-3b-2
Date	11/08/22
Approved	MFB

The odour control procedure outlined in Section 4 is to be adhered to if an odour is released from the Factory with potential to cause a nuisance to sensitive receptors, the Environment Agency should be contacted and informed.

Consideration of odour and the need to control emissions commences prior to raw materials being accepted onto site. Any new raw material is assessed, and a decision made if this will contribute or increase odour emissions.

## 5 Document Control and Review

This document is a working document that will be reviewed at least every two years to ensure that it remains relevant to site operations and to determine whether further controls or improvements can be implemented.

The plan will be reviewed in the event of any substantiated odour complaints, or in the event that a significant emission is known to have occurred (identified by olfactory monitoring).

- Last review date: 25/03/2022
- Next review due by (24 months after the last review): March 2024

