

ABBVIE BIOCHEMICAL AND MEDICAL DEVICES FACILITY – ASSESSMENT OF COMPLIANCE WITH CONCLUSIONS ON BEST AVAILABLE TECHNIQUES FROM THE BREF FOR EMISSIONS FROM STORAGE

The full and complete Emissions from Storage BAT reference document (July 2006) is available at the EIPPC Bureau website:
<http://eippcb.jrc.ec.europa.eu/reference/>

SCOPE
*The manufacture and subsequent storage of pesticides, pharmaceutical or veterinary products and their intermediates.
 The use of chemical or biological process for the production of basic pharmaceutical products.*

Conclusions on BAT	Applicability Assessment (describe how the technique applies or not to your installation)	State whether it is in place or state schedule for implementation
<p>5.1 Storage of liquids and Liquefied gases 5.1.1.1 General principles to prevent and reduce emissions</p>		
<p>BAT 1. BAT for a proper design is to take into account at least the following:</p> <ul style="list-style-type: none"> • the physico-chemical properties of the substance being stored • how the storage is operated, what level of instrumentation is needed, how many operators are required, and what their workload will be • how the operators are informed of deviations from normal process conditions (alarms) • how the storage is protected against deviations from normal process conditions (safety instructions, interlock systems, pressure relief devices, leak detection and containment, etc.) • what equipment has to be installed, largely taking account of past experiences of the product (construction materials, valve quality, etc.) • which maintenance and inspection plan needs to be implemented and how to ease the maintenance and inspection work (access, layout, etc.) 	<p>Applicable - All new storage facilities will be specified in order to be compatible to what is being stored as per existing approach.</p> <p>All process vessels are fitted with the required level alarms and switches in order to prevent overfills and unnecessary emissions.</p> <p>All process parameters will be controlled by the Process Control System (PCS). Staff are trained in emergency response and spill management and will follow the</p>	<p>In Place (or Ongoing). BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence.</p>

<ul style="list-style-type: none"> • how to deal with emergency situations (distances to other tanks, facilities and to the boundary, fire protection, access for emergency services such as the fire brigade, etc.). 	<p>relevant Standard Operating Procedures (SOPs) already in place at the facility.</p> <p>The process has undergone the relevant Process Hazard Assessments (PHAs) to ensure that the necessary controls are in place in the case of deviations from the operating norms for both the new facility. PHA's are not required for the process at the existing facility.</p> <p>Both the new and existing facilities have been designed in order to allow for ease of and safe access for maintenance.</p> <p>An emergency response plan is in place for the facility as required by the Conditions of the Industrial Emissions (IE) Licence. This will be updated to include the new areas.</p>	
<p>BAT 2. BAT is to apply a tool to determine proactive maintenance plans and to develop risk-based inspection plans such as the risk and reliability based maintenance approach; see Section 4.1.2.2.1.</p>	<p>Applicable -</p> <p>AbbVie utilizes a maintenance programme called Maintenance Excellence Programme (MEP). This programme monitors sites against a set of Global Key Performance Indicators (KPI's) which are used to determine the state of the maintenance programmes in each site.</p>	<p>In Place (or Ongoing). BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence.</p>

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	<p>A key element of this is the Maximo computer maintenance management system.</p> <p>All maintenance activities, environmental monitoring (noise, water monitoring, emissions), pest control, risk assessments etc. are scheduled through this system. These KPI's are reported internally weekly and externally on a monthly basis.</p> <p>The Building Management System (BMS) allows for monitoring of parameters to ensure that all equipment is working as planned.</p> <p>PHAs carried out on the design will ensure that all necessary controls are in place to avoid any potential hazard. PHAs are not required for the process at the existing facility.</p>	
<p>BAT3. BAT is to locate a tank operating at, or close to, atmospheric pressure aboveground. However, for storing flammable liquids on a site with restricted space, underground tanks can also be considered. For liquefied gases, underground, mounded storage or spheres can be considered, depending on the storage volume.</p>	<p>Applicable – liquid nitrogen tank is located externally at 4-6 bar to maintain temperature control on the lyophilizer chamber. The vaporized nitrogen is stored in a 10m³ bulk tank in the yard and will provide nitrogen to the lyophiliser and isolators. The nitrogen pad will be free of sumps, open drains or other areas where cold nitrogen gas could accumulate in the event of a release. A</p>	<p>In Place (or Ongoing). BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence.</p>

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	<p>liquid petroleum gas (LPG) tank is present at the site for providing LPG to the boilers. Neither tank needs a bund as they contain liquid gas which will vaporise in the event of a leak. HAZOPs have been carried out as part of the design of the liquid nitrogen system. The unit will also be leased and maintained by a specialist gas contractor.</p> <p>High high and low strength wastewater tanks and diesel belly tanks are also stored at atmospheric pressure.</p>	
<p>BAT 4. BAT is to apply either a tank colour with a reflectivity of thermal or light radiation of at least 70 %, or a solar shield on aboveground tanks which contain volatile substances, see Section 4.1.3.6 and 4.1.3.7 respectively.</p>	<p>Not Applicable – No bulk tank storage of solvents</p>	<p>N/A</p>
<p>BAT 5. BAT is to abate emissions from tank storage, transfer and handling that have a significant negative environmental effect, as described in Section 4.1.3.1</p>	<p>Applicable –The high high strength wastewater bulk tank will be contained within a sealed drainage system and vents from tank via a dual filter.</p> <p>A double skinned belly tank will be used to hold diesel for the emergency generator. All piping for the diesel tank will be single contained. The belly tank has room for expansion in the tank and does not have an exhaust vent. The diesel belly tank is fitted with leak detection.</p>	<p>BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence.</p>

<p>BAT 6. On sites where significant VOC emissions are to be expected, BAT includes calculating the VOC emissions regularly.</p>	<p>Not Applicable – Solvent use will consist of small quantities only, used for printing (existing facility), cleaning Isopropyl Alcohol (IPA), and solution prep Di-methyl Alcohol (DMA) and Di-methyl Sulfoxide (DMSO). No solvent management plan required.</p>	<p>In Place (or Ongoing). BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence.</p>
<p>BAT 7. BAT is to apply dedicated systems; see Section 4.1.4.4.</p> <p><i>In ‘dedicated systems’, tanks and equipment are dedicated to one group of products. This means no changes in products. This makes it possible to install and use technologies specifically tailored to the products stored (and handled), thereby preventing and abating emissions efficiently and effectively.</i></p>	<p>Applicable – All tanks will be dedicated to specific substances.</p>	<p>In Place (or Ongoing). BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence.</p>
<p>5.1.1.2 Tank specific considerations</p>		
<p>Open top tanks BAT 8. If emissions to air occur, BAT is to cover the tank by applying:</p> <ul style="list-style-type: none"> • a floating cover, see Section 4.1.3.2 • a flexible or tent cover, see Section 4.1.3.3, or • a rigid cover, see Section 4.1.3.4. <p>Additionally, with an open top tank covered with a flexible, tent or a rigid cover, a vapour treatment installation can be applied to achieve an additional emission reduction, see Section 4.1.3.15. The type of cover and the necessity for applying the vapour treatment system depend on the substances stored and must be decided on a case-by-case basis.</p>	<p>Applicable – Applies only to the cooling towers. Vapour treatment is not required. No floating or flexible cover required. Cooling tower sumps consist of cooling water and only contain small quantities of treatment chemicals.</p>	<p>In Place (or Ongoing). BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence.</p>
<p>BAT 9. To prevent deposition that would call for an additional cleaning step, BAT is to mix the stored substance (e.g. slurry), see Section 4.1.5.1.</p>	<p>Not applicable – No requirement for mixing</p>	<p>N/A</p>

<p>External floating roof tank BAT 10. The BAT associated emission reduction level for a large tank is at least 97 % (compared to a fixed roof tank without measures), which can be achieved when over at least 95 % of the circumference the gap between the roof and the wall is less than 3.2 mm and the seals are liquid mounted, mechanical shoe seals.</p>	Not Applicable	N/A
<p>BAT 11. BAT is to apply direct contact floating roofs (double-deck), however, existing non-contact floating roofs (pontoon) are also BAT. See Section 3.1.2. A dome can be BAT for adverse weather conditions, such as high winds, rain or snowfall. See Section 4.1.3.5.</p>	Not Applicable	N/A
<p>BAT 12. For liquids containing a high level of particles (e.g. crude oil), BAT is to mix the stored substance to prevent deposition that would call for an additional cleaning step, see Section 4.1.5.1.</p>	Not Applicable	N/A
<p>Fixed roof tanks BAT 13. For the storage of volatile substances which are toxic (T), very toxic (T+), or carcinogenic, mutagenic and reproductive toxic (CMR) categories 1 and 2 in a fixed roof tank, BAT is to apply a vapour treatment installation.</p>	Not applicable – covered tanks will be used for storing wastewater (high high strength and low strength). Vapor treatment not required as contents are not volatile. All tanks are fitted with vent filters.	N/A
<p>BAT 14. For other substances, BAT is to apply a vapour treatment installation, or to install an internal floating roof (see Sections 4.1.3.15 and 4.1.3.10 respectively). Direct contact floating roofs and non-contact floating roofs are BAT.</p>	<p>Applicable – covered tanks will be used for storing wastewater (high high strength and low strength).</p> <p>Floating roofs are not appropriate for the chemicals stored. All tanks are fitted with filters on in and out flow.</p>	<p>BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence.</p>

<p>BAT 15. For tanks < 50 m³, BAT is to apply a pressure relief valve set at the highest possible value consistent with the tank design criteria.</p>	Not applicable	N/A
<p>BAT 16. For liquids containing a high level of particles (e.g. crude oil) BAT is to mix the stored substance to prevent deposition that would call for an additional cleaning step, see Section 4.1.5.1.</p>	<p>Not Applicable – bulk tanks do not contain high levels of particulates.</p> <p>Recirculation will be in place for wastewater storage tanks (both high high strength and low strength).</p>	<p>BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence.</p>
<p>Atmospheric horizontal tanks BAT 17. For the storage of volatile substances which are toxic (T), very toxic (T+), or CMR categories 1 and 2 in an atmospheric horizontal tank, BAT is to apply a vapour treatment installation.</p>	Not applicable	N/A
<p>BAT 18. For other substances, BAT is to do all, or a combination, of the following techniques, depending on the substances stored:</p> <ul style="list-style-type: none"> • apply pressure vacuum relief valves; see Section 4.1.3.11 • up rate to 56 mbar; see Section 4.1.3.11 • apply vapour balancing; see Section 4.1.3.13 • apply a vapour holding tank, see Section 4.1.3.14, or • apply vapour treatment; see Section 4.1.3.15. <p>The selection of the vapour treatment technology has to be decided on a case-by-case basis.</p>	Not applicable	N/A
<p>Pressurised storage BAT 19. BAT for draining depends on the tank type, but may be the application of a closed drain system connected to a vapour treatment installation, see Section 4.1.4. The selection of the vapour treatment technology has to be decided on a case-by-case basis.</p>	Applicable - pressurised tanks used to store Liquid Nitrogen. Maintenance will be conducted by a specialist contractor.	<p>BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence.</p>

<p>Lifter roof tanks BAT 20. For emissions to air, BAT is to (see Sections 3.1.9 and 4.1.3.14):</p> <ul style="list-style-type: none"> • apply a flexible diaphragm tank equipped with pressure/vacuum relief valves, or • apply a lifter roof tank equipped with pressure/vacuum relief valves and connected to a vapour treatment installation. <p>The selection of the vapour treatment technology has to be decided on a case-by-case basis.</p>	Not applicable	N/A
<p>Underground and mounded tanks BAT 21. For the storage of volatile substances which are toxic (T), very toxic (T+), or CMR categories 1 and 2 in an underground or mounded tank, BAT is to apply a vapour treatment installation.</p>	Not applicable – wastewater tanks in sunken bund only	N/A
<p>BAT 22. For other substances, BAT is to do all, or a combination, of the following techniques, depending on the substances stored:</p> <ul style="list-style-type: none"> • apply pressure vacuum relief valves; see Section 4.1.3.11 • apply vapour balancing; see Section 4.1.3.13 • apply a vapour holding tank, see Section 4.1.3.14, or • apply vapour treatment; see Section 4.1.3.15. <p>The selection of the vapour treatment technology has to be decided on a case-by-case basis.</p>	Not applicable	N/A
5.1.1.3 Preventing incidents and (major) accidents		
<p>BAT 23. BAT in preventing incidents and accidents is to apply a safety management system as described in Section 4.1.6.1.</p>	Applicable - A safety management system is employed as part of the facility's Environmental Management System (EMS) to prevent or minimise the occurrence of incidents and accidents. This will be amended to account for new processes.	In Place (or Ongoing). BAT as it applies to the new development will be in place following completion of construction of the

		suite and grant of the IE licence.
<p>BAT 24. BAT is to implement and follow adequate organisational measures and to enable training and instruction of employees for safe and responsible operation of the installation as described in Section 4.1.6.1.1.</p>	<p>Applicable - All staff are fully qualified and fully trained. All training records are held on site. Training includes training staff on all relevant SOPs, emergency response procedure, housekeeping, safety procedures and other relevant EMS procedures.</p> <p>AbbVie has established Environmental Health & Safety (EHS) management requirements that conform to the ISO14001, ISO 50001, ISO 55001 and OHSAS18001 management system standards.</p>	<p>In Place (or Ongoing). BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence.</p>
<p>BAT 25. BAT is to prevent corrosion by:</p> <ul style="list-style-type: none"> • selecting construction material that is resistant to the product stored • applying proper construction methods • preventing rainwater or groundwater entering the tank and if necessary, removing water that has accumulated in the tank • applying rainwater management to bund drainage • applying preventive maintenance, and • where applicable, adding corrosion inhibitors, or applying cathodic protection on the inside of the tank. 	<p>Applicable - corrosive substances are used on-site.</p> <p>Rainwater management within bunds will be employed.</p> <p>The materials of construction will be compatible with the materials that will be used in the process. This will ensure that corrosion is avoided.</p> <p>A preventive maintenance schedule will be in place and will be updated to include the new areas and plant.</p>	<p>In Place (or Ongoing). BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence.</p>

<p>BAT 26. Additionally for an underground tank, BAT is to apply to the outside of the tank:</p> <ul style="list-style-type: none"> • a corrosion-resistant coating • plating, and/or • a cathodic protection system. 	Not applicable – no underground tanks	N/A
<p>BAT 27. BAT is to prevent stress corrosion cracking (SCC) by:</p> <ul style="list-style-type: none"> • stress relieving by post-weld heat treatment, see Section 4.1.6.1.4, and • applying a risk based inspection as described in Section 4.1.2.2.1. 	Not applicable - No risk of stress corrosion. Stress analysis has been completed on pipes prior to installation.	N/A
<p>BAT 28. BAT is to implement and maintain operational procedures – e.g. by means of a management system – as described in Section 4.1.6.1.5, to ensure that:</p> <ul style="list-style-type: none"> • high level or high pressure instrumentation with alarm settings and/or auto closing of valves is installed • proper operating instructions are applied to prevent overflow during a tank filling operation, and • sufficient ullage is available to receive a batch filling. 	<p>Applicable – The facility and the process are governed by SOPs and by the PCS which control all process parameters including recipe control.</p> <p>Tanks will be fitted with high level detection alarms to prevent overflowing. Level controls will be verified and documented during commissioning.</p>	In Place (or Ongoing). BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence.
<p>BAT 29. BAT is to apply leak detection on storage tanks containing liquids that can potentially cause soil pollution.</p>	<p>Applicable – Where required, process vessels are fitted with level alarms and switches to prevent overfills and unnecessary emissions.</p> <p>All process parameters are controlled by a control system. The PCS as well as the appropriate periodic visual checks that are implemented will allow leakages to be quickly and reliably detected.</p> <p>Staff are trained in emergency response including spill response and SOPs are in</p>	In Place (or Ongoing). BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence.

	<p>place outlining appropriate spill response techniques. Spill kits are available across the site.</p> <p>An emergency response plan is in place and will be updated as required under condition of the IE licence.</p>	
<p>BAT 30. BAT is to achieve a 'negligible risk level' of soil pollution from bottom and bottom-wall connections of aboveground storage tanks. However, on a case-by-case basis, situations might be identified where an 'acceptable risk level' is sufficient.</p>	<p>Applicable – All wastewater tanks will be bunded in accordance with the requirements of the IE licence and will be integrity tested every 3 years as required under the licence, with periodic visual inspections also being undertaken. Bunds of bulk storage tanks will be chemical resistant and equipped with level detection. In the event of a spillage, the spilled wastewater will be pumped to the appropriate storage tank and tested.</p>	<p>BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence.</p>
<p>BAT 31. BAT for aboveground tanks containing flammable liquids or liquids that pose a risk for significant soil pollution or a significant pollution of adjacent watercourses is to provide secondary containment, such as:</p> <ul style="list-style-type: none"> • tank bunds around single wall tanks; see Section 4.1.6.1.11 • double wall tanks; see Section 4.1.6.1.13 • cup-tanks; see Section 4.1.6.1.14 • double wall tanks with monitored bottom discharge; see Section 4.1.6.1.15. 	<p>Applicable – Tanks are designed in accordance with the requirements of the EPA Guidance Note on the Storage and Transfer of Materials for Scheduled Activities. This will ensure that the tanks are designed to ensure environmental protection.</p>	<p>BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence.</p>
<p>BAT 32.</p>	<p>Applicable – wastewater tanks will be single walled however these will be bunded in accordance with BAT.</p>	<p>BAT as it applies to the new development will be in place following</p>

<p>For building new single walled tanks containing liquids that pose a risk for significant soil pollution or a significant pollution of adjacent watercourses, BAT is to apply a full, impervious, barrier in the bund, see Section 4.1.6.1.10.</p>		<p>completion of construction of the suite and grant of the IE licence.</p>
<p>BAT 33. For existing tanks within a bund, BAT is to apply a risk-based approach, considering the significance of risk from product spillage to the soil, to determine if and which barrier is best applicable. This risk-based approach can also be applied to determine if a partial impervious barrier in a tank bund is sufficient or if the whole bund needs to be equipped with an impervious barrier. See Section 4.1.6.1.11.</p>	<p>Applicable - Chemical storage is limited to bunded tanks, drums stores and designated process areas. Handling and transfer of fuel and chemicals will be carefully controlled. The volume of chemicals stored and the containment measures planned will minimise the risk of release of solid/liquid material spillages to the water environment.</p> <p>Storage of hazardous materials on site will be in bunded containers or compartments. All holding/ storage and chemical tanks are bunded and located on a bunded concrete hard stand. The design of all bunds conforms to standard bunding specifications - BS8007:1987.</p> <p>An environmental liabilities risk assessment was undertaken for Section 9 of this application which identifies the risks and a statement of measures.</p>	<p>In Place (or Ongoing). BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence.</p>
<p>BAT 34. For chlorinated hydrocarbon solvents (CHC) in single walled tanks, BAT is to apply CHC-proof laminates to concrete barriers (and containments), based on phenolic or furan resins. One form of epoxy resin is also CHC-proof. See Section 4.1.6.1.12.</p>	<p>Not applicable- No CHCs used or stored onsite</p>	<p>N/A</p>

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<p>BAT 35. BAT for underground and mounded tanks containing products that can potentially cause soil pollution is to:</p> <ul style="list-style-type: none"> • apply a double walled tank with leak detection, see Section 4.1.6.1.16, or • to apply a single walled tank with secondary containment and leak detection, see Section 4.1.6.1.17. 	Not Applicable – no underground tanks.	N/A
<p>BAT 36. For toxic, carcinogenic or other hazardous substances, BAT is to apply full containment.</p>	<p>Applicable – a small number of hazardous substances (solvents) will be used onsite and stored in hazardous cabinets in the Warehouse.</p> <p>Any spill of hazardous substances used in the process will be diverted to the high high strength waste tank for offsite disposal.</p>	<p>In Place (or Ongoing). BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence.</p>
5.1.2. Storage of packaged dangerous substances		
<p>BAT 37. BAT in preventing incidents and accidents is to apply a safety management system as described in Sections 4.1.6.1. The minimum level of BAT is to assess the risks of accidents and incidents on the site using the five steps described in Section 4.1.6.1</p>	<p>Applicable – packed dangerous substances will be present onsite</p> <p>A safety management system is employed as part of the EMS to prevent or minimise the occurrence of incidents and accidents. This system includes an extensive risk assessment as described in section 4.1.6.1.</p> <p>The safety management system for existing facility is to be amended to account for new processes.</p>	<p>In Place (or Ongoing). BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence review.</p>

<p>BAT 38. BAT is to appoint a person or persons who is or are responsible for the operation of the store.</p>	<p>Applicable – packed hazardous substances present onsite. Appropriate staff will be employed to run the Warehouse and other storage areas at the facility</p>	<p>In Place (or Ongoing). BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence.</p>
<p>BAT 39. BAT is to provide the responsible person(s) with specific training and retraining in emergency procedures as described in Section 4.1.7.1 and to inform other staff on the site of the risks of storing packaged dangerous substances and the precautions necessary to safely store substances that have different hazards.</p>	<p>Applicable – packed hazardous substances present onsite. Staff are fully trained in site procedures, including all SOPs and emergency response and safety procedures in relation to the storage and handling of all substances being used at the facility.</p>	<p>In Place (or Ongoing). BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence.</p>
<p>BAT 40. BAT is to apply a storage building and/or an outdoor storage area covered with a roof, as described in Section 4.1.7.2. For storing quantities of less than 2500 litres or kilograms dangerous substances, applying a storage cell as described in Section 4.1.7.2 is also BAT.</p>	<p>Applicable – packed hazardous substances present onsite.</p> <p>All raw materials and product are stored in the Warehouse.</p> <p>Existing external chemical stores are locked, banded and covered.</p>	<p>In Place (or Ongoing). BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence.</p>
<p>BAT 41. BAT is to separate the storage area or building of packaged dangerous substances from other storage, from ignition sources and from other buildings on- and off-site by applying a sufficient distance, sometimes in combination with fire-resistant walls.</p>	<p>Applicable – packed dangerous substances present onsite.</p> <p>Flammable and combustible materials are stored away from ignition sources.</p> <p>A full programme of PHA studies to cover all process steps including waste</p>	<p>In Place (or Ongoing). BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence.</p>

	treatment has been completed. ATEX and all other relevant safety studies were included in the design scope. These ensure that the relevant control measures are in place to avoid any hazards and plant operability issues which may or may not lead to environmental impact.	
<p>BAT 42. BAT is to separate and/or segregate incompatible substances. For the compatible and incompatible combinations see Annex 8.3.</p>	<p>Applicable – packed dangerous substances present onsite</p> <p>All incompatible substances will be separated.</p>	<p>In Place (or Ongoing). BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence.</p>
<p>BAT 43. BAT is to install a liquid-tight reservoir according to Section 4.1.7.5 that can contain all or a part of the dangerous liquids stored above such a reservoir. The choice whether all or only a part of the leakage needs to be contained depends on the substances stored and on the location of the storage (e.g. in a water catchment area) and can only be decided on a case-by-case basis.</p>	<p>Not Applicable – No reservoir required.</p> <p>A firewater retention risk assessment has been undertaken as part of the IE licence application to assess the requirement for dedicated firewater retention. This confirmed that designated retention is required for areas containing cyto-toxic material. Fire water will be captured by pop up drains in rooms permanently containing cyto-toxic material and diverted to the waste bund located in the external waste tank storage building.</p>	<p>N/A</p>

<p>BAT 44. BAT is to install a liquid-tight extinguishant collecting provision in storage buildings and storage areas according to Section 4.1.7.5. The collecting capacity depends on the substances stored, the amount of substances stored, the type of package used and the applied fire-fighting system and can only be decided on a case-by-case basis.</p>	<p>Applicable – firewater will be retained fully within the drainage network. During a fire scenario the emergency pop-up drains are opened, and all firewater is diverted to the external covered bund.</p>	<p>In Place (or Ongoing). BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence.</p>
<p>BAT 45. BAT is to apply a suitable protection level of fire prevention and fire-fighting measures as described in Section 4.1.7.6. The appropriate protection level has to be decided on a case-by-case basis in agreement with the local fire brigade.</p>	<p>Applicable – Firefighting facilities and fire brigade access will be in compliance with Part B of the Building Regulations</p>	<p>In Place (or Ongoing). BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence.</p>
<p>BAT 46. BAT is to prevent ignition at source as described in Section 4.1.7.6.1.</p>	<p>Applicable – Smoking is not permitted on site. Contractors will require a permit to work and as such will identify any potential hazards in order to work safely.</p>	<p>In Place (or Ongoing). BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence.</p>
5.1.3 Basins and lagoons		
<p>BAT 47. Where emissions to air from normal operation are significant, e.g. with the storage of pig slurry, BAT is to cover basins and lagoons using one of the following options:</p> <ul style="list-style-type: none"> • a plastic cover; see Section 4.1.8.2 • a floating cover; see Section 4.1.8.1, or • only small basins, a rigid cover; see Section 4.1.8.2. 	<p>Not Applicable – surface water/fire-water retention will not generate significant emissions to air.</p>	<p>N/A</p>

<p>Additionally, where a rigid cover is used, a vapour treatment installation can be applied to achieve an extra emission reduction, see Section 4.1.3.15. The need for and type of vapour treatment must be decided on a case-by-case basis.</p>		
<p>BAT 48. To prevent overflowing due to rainfall in situations where the basin or lagoon is not covered, BAT is to apply a sufficient freeboard, see Section 4.1.11.1.</p>	<p>Not Applicable – No surface water basin required</p>	<p>N/A</p>
<p>BAT 49. Where substances are stored in a basin or lagoon with a risk of soil contamination, BAT is to apply an impervious barrier. This can be a flexible membrane, a sufficient clay layer or concrete, see Section 4.1.9.1</p>	<p>Not Applicable – No surface water basin required</p>	<p>N/A</p>
<p>5.2 Transfer and handling of liquids and liquefied gases 5.2.1 General principles to prevent and reduce emissions</p>		
<p>BAT 50. BAT is to apply a tool to determine proactive maintenance plans and to develop risk-based inspection plans such as, the risk and reliability based maintenance approach; see Section 4.1.2.2.1.</p>	<p>Applicable – transfer of liquids and liquefied gases onsite.</p> <p>A maintenance schedule is maintained on site for all process and service equipment. The Building Management System (BMS) allows for monitoring of parameters to ensure that all HVAC equipment is working as planned. The PHAs carried out on the design will ensure that all necessary controls are in place to avoid any potential hazard.</p>	<p>In Place (or Ongoing). BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence review.</p>
<p>BAT 51. For large storage facilities, according to the properties of the products stored, BAT is to apply a leak detection and repair programme. Focus needs to be on those situations most likely to cause emissions (such as gas/light liquid, under high pressure and/or temperature duties). See Section 4.2.1.3.</p>	<p>Applicable – Where required, process vessels are fitted with level alarms and switches to prevent overfills and unnecessary emissions.</p>	<p>In Place (or Ongoing). BAT as it applies to the new development will be in place following completion of construction of the</p>

<p style="text-align: center; color: red; transform: rotate(-45deg); opacity: 0.5;">For inspection purposes only. Consent of copyright owner required for any other use.</p>	<p>All process parameters are controlled by the PCS. The PCS as well as the appropriate periodic visual checks that are implemented will allow leakages to be quickly and reliably recognised.</p> <p>Storage of hazardous materials on site is in bunded containers or compartments. The design of all bunds conforms to standard bunding specifications - BS8007:1987.</p> <p>Bund and pipeline testing using a hydraulic test is undertaken at least every 3 years and included in the annual environmental report for the site.</p> <p>Vaporised Hydrogen Peroxide is used for sterilisation. This is used in a high containment isolator. Two catalytic converters in series are used to make the gas safe for emission to atmosphere (converts to water and oxygen).</p>	<p>suite and grant of the IE licence review.</p>
<p>BAT 52. BAT is to abate emissions from tank storage, transfer and handling that have a significant negative environmental effect, as described in Section 4.1.3.1.</p>	<p>Applicable – Chemical storage is limited to bunded tanks, drums stores and designated process areas. Handling and transfer of fuel and chemicals will be carefully controlled. The volume of chemicals stored and the containment measures planned will minimise the risk</p>	<p>In Place (or Ongoing). BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence review.</p>

	<p>of release of solid/liquid material spillages to the water environment.</p> <p>Staff are trained in emergency response including spill response and SOPs are in place outlining appropriate spill response techniques. Spill kits are available across the site.</p> <p>An emergency response plan is in place and will be updated in accordance with the condition of the IE licence.</p>	
<p>BAT 53. BAT in preventing incidents and accidents is to apply a safety management system as described in Section 4.1.6.1.</p>	<p>Applicable – transfer of liquids and liquefied gases onsite.</p> <p>AbbVie operate under a number of SOPs which include for the safe transfer of materials. A safety management system, as part of the wider EMS for the facility, is implemented to prevent accidents and incidents from occurring.</p>	<p>In Place (or Ongoing). BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence.</p>
<p>BAT 54. BAT is to implement and follow adequate organisational measures and to enable the training and instruction of employees for safe and responsible operation of the installation as described in Section 4.1.6.1.1.</p>	<p>Applicable – All staff will be fully qualified and fully trained. All training records will be held on site. Training will include training staff on all relevant SOPs, emergency response procedure, housekeeping, safety procedures and other relevant EMS procedures.</p>	<p>In Place (or Ongoing). BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence.</p>

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5.2.2 Considerations on transfer and handling techniques 5.2.2.1 Piping		
BAT 55. BAT is to apply aboveground closed piping in new situations, see Section 4.2.4.1. For existing underground piping it is BAT to apply a risk and reliability based maintenance approach as described in Section 4.1.2.2.1.	Applicable – new process pipelines present on-site. Existing pipes are subject to necessary preventative maintenance.	In Place (or Ongoing). BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence.
BAT 56. BAT is to minimise the number of flanges by replacing them with welded connections, within the limitation of operational requirements for equipment maintenance or transfer system flexibility, see Section 4.2.2.1.	Applicable – new process pipelines. Existing sewer pipes are subject to necessary preventative maintenance. Where possible and practically feasible the use of flanges will be reduced, and welded connections applied for both the new and existing facilities.	In Place (or Ongoing). BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence.
BAT 57. BAT for bolted flange connections (see Section 4.2.2.2.) include: <ul style="list-style-type: none"> • fitting blind flanges to infrequently used fittings to prevent accidental opening • using end caps or plugs on open-ended lines and not valves • ensuring gaskets are selected appropriate to the process application • ensuring the gasket is installed correctly • ensuring the flange joint is assembled and loaded correctly • where toxic, carcinogenic or other hazardous substances are transferred, fitting high integrity gaskets, such as spiral wound, kammprofile or ring joints. 	Applicable. Flanges have been minimised where practical. Flanges will be routinely inspected under the entire facility's preventative maintenance scheme. At end of lines valves with caps / tri-clamp blanks have been used at both new and existing facility. All gaskets have been appropriately selected and installed by an appropriate	In Place (or Ongoing). BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence.

	<p>installer / contractor at both new and existing facility.</p> <p>Flanges have been minimised on all lines that contain potentially hazardous chemicals i.e. caustic. There will be an increased preventative maintenance schedule on all lines used for hazardous chemicals at both new and existing facility.</p>	
<p>BAT 58. BAT is to prevent corrosion by:</p> <ul style="list-style-type: none"> • selecting construction material that is resistant to the product • applying proper construction methods • applying preventive maintenance, and • where applicable, applying an internal coating or adding corrosion inhibitors. 	<p>Applicable.</p> <p>Extensive process pipelines at both new and existing facility. Corrosive substances used onsite.</p> <p>The materials of construction will be compatible with the materials that will be used in the processes at both new and existing facility. This will ensure that corrosion is avoided.</p> <p>Preventive maintenance schedule will be in place at both new and existing facility.</p>	<p>In Place (or Ongoing). BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence.</p>
<p>BAT 59. To prevent the piping from external corrosion, BAT is to apply a one, two, or three layer coating system depending on the site-specific conditions (e.g. close to sea). Coating is normally not applied to plastic or stainless steel pipelines. See Section 4.2.3.2.</p>	<p>Applicable - Pipelines in place for wastewaters and for Liquid Nitrogen distribution for the new facility.</p> <p>Liquid nitrogen is distributed to the external vaporiser local to the Liquid</p>	<p>In Place (or Ongoing). BAT as it applies to the new development will be in place following completion of construction of the</p>

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	<p>Nitrogen bulk tank where it is converted to gaseous Nitrogen for use within the facility. Gaseous Nitrogen will be distributed in fully welded stainless-steel pipelines. Tri-clamps and other fittings will be minimised to reduce potential leak points. Pressure indicators will be used to continuously check line integrity for the new facility.</p> <p>High high strength and low strength wastewater pipelines will be double contained for the new facility.</p> <p>New and existing wastewater pipes are subject to necessary preventative maintenance.</p>	suite and grant of the IE licence review.
5.2.2.2 Vapour treatment		
<p>BAT 60. BAT is to apply vapour balancing or treatment on significant emissions from the loading and unloading of volatile substances to (or from) trucks, barges and ships. The significance of the emission depends on the substance and the volume that is emitted and has to be decided on a case-by-case basis. For more detail see Section 4.2.8.</p>	<p>Not Applicable - vapour balancing or treatment are not required. Bulk volatile substances are not used in bio-chemical process.</p> <p>IPA used for cleaning will be stored in sealed packets of pre-wetted wipes. IPA spray bottles will also be sealed until use. These will be delivered to site in sealed packets / bottles and stored in the Warehouse until required for use.</p>	N/A

	<p>DMA/DMSO/Acetic Acid will be stored in sealed bottles within the Warehouse until used.</p> <p>Solvents used in printing are delivered and stored in sealed containers and stored in locked cabinets prior to use.</p>	
<p>5.2.2.3 Valves</p>		
<p>BAT 61. BAT for valves include:</p> <ul style="list-style-type: none"> • correct selection of the packing material and construction for the process application • with monitoring, focus on those valves most at risk (such as rising stem control valves in continual operation) • applying rotating control valves or variable speed pumps instead of rising stem control valves • where toxic, carcinogenic or other hazardous substances are involved, fit diaphragm, bellows, or double walled valves • route relief valves back into the transfer or storage system or to a vapour treatment system. 	<p>Applicable.</p> <p>All valves will be fit for purpose and will be considered in the PHAs. No PHAs will be required for the existing process. All valves will be installed by a qualified contractor and will also be commissioned and tested for the new and existing facilities. All valves will be on a preventive maintenance schedule and will have feedback to the PCS in order to detect any problems in the process at the new facility.</p>	<p>In Place (or Ongoing). BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence review.</p>
<p>5.2.2.4 Pumps and compressors</p>		
<p>BAT 62. The following are some of the main factors which constitute BAT:</p> <ul style="list-style-type: none"> • proper fixing of the pump or compressor unit to its base-plate or frame • having connecting pipe forces within producers' recommendations • proper design of suction pipework to minimise hydraulic imbalance • alignment of shaft and casing within producers' recommendations • alignment of driver/pump or compressor coupling within producers' recommendations when fitted 	<p>Applicable.</p> <p>All pumps and compressors will be fit for purpose and will be considered in the process HAZOP. No PHAs required for the existing process. All pumps/compressors are installed by a qualified contractor and are also commissioned and tested. All</p>	<p>In Place (or Ongoing). BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence review.</p>

<ul style="list-style-type: none"> • correct level of balance of rotating parts • effective priming of pumps and compressors prior to start-up • operation of the pump and compressor within producers' recommended performance range (The optimum performance is achieved at its best efficiency point.) • the level of net positive suction head available should always be in excess of the pump or compressor • regular monitoring and maintenance of both rotating equipment and seal systems, combined with a repair or replacement programme. 	pumps are on a preventive maintenance schedule and, at the new facility, will have feedback to the PCS in order to detect any problems in the process.	
<p>BAT 63. BAT is to use the correct selection of pump and seal types for the process application, preferably pumps that are technologically designed to be tight such as canned motor pumps, magnetically coupled pumps, pumps with multiple mechanical seals and a quench or buffer system, pumps with multiple mechanical seals and seals dry to the atmosphere, diaphragm pumps or bellows pumps. For more details see Sections 3.2.2.2, 3.2.4.1 and 4.2.9.</p>	Applicable. All pumps have been sized, selected and purchased for their dedicated systems for the new and existing facility.	In Place (or Ongoing). BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence review.
<p>BAT 64. BAT for compressors transferring non-toxic gases is to apply gas lubricated mechanical seals.</p>	Not applicable – no gases in compressors	N/A
<p>BAT 65. BAT for compressors, transferring toxic gases is to apply double seals with a liquid or gas barrier and to purge the process side of the containment seal with an inert buffer gas.</p>	Not applicable – no gases in compressors	N/A
<p>BAT 66. In very high pressure services, BAT is to apply a triple tandem seal system.</p>	Not applicable – no gases in compressors	N/A
5.2.2.5 Sampling connections		
<p>BAT 67. BAT, for sample points for volatile products, is to apply a ram type sampling valve or a needle valve and a block valve. Where sampling lines require purging, BAT is to apply closed-loop sampling lines. See Section 4.2.9.14.</p>	Not applicable – no volatile products	N/A

5.3 Storage of solids 5.3.1 Open storage		
BAT 68. BAT is to apply enclosed storage by using, for example, silos, bunkers, hoppers and containers, to eliminate the influence of wind and to prevent the formation of dust by wind as far as possible by primary measures. See Table 4.12 for these primary measures with cross-references to the relevant sections.	Not Applicable – no open storage for the new and existing facility.	N/A
BAT 69. BAT for open storage is to carry out regular or continuous visual inspections to see if dust emissions occur and to check if preventive measures are in good working order. Following the weather forecast by, e.g. using meteorological instruments on site, will help to identify when the moistening of heaps is necessary and will prevent unnecessary use of resources for moistening the open storage. See Section 4.3.3.1.	Not Applicable – no open storage for the new and existing facility.	N/A
BAT 70. BAT for long-term open storage are one, or a proper combination, of the following techniques: <ul style="list-style-type: none"> • moistening the surface using durable dust-binding substances, see Section 4.3.6.1 • covering the surface, e.g. with tarpaulins, see Section 4.3.4.4 • solidification of the surface, see Table 4.13 • grassing-over of the surface, see Table 4.13. 	Not Applicable – no long term open storage for the new and existing facility.	N/A
BAT 71. BAT for short-term open storage are one, or a proper combination, of the following techniques: <ul style="list-style-type: none"> • moistening the surface using durable dust-binding substances, see Section 4.3.6.1 • moistening the surface with water, see Sections 4.3.6.1 • covering the surface, e.g. with tarpaulins, see Section 4.3.4.4. 	Not Applicable – no open storage for the new and existing facility.	N/A
5.3.2 Enclosed storage		
BAT 72. BAT is to apply enclosed storage by using, for example, silos, bunkers, hoppers and containers. Where silos are not applicable, storage in sheds can be an alternative. This is, e.g. the case if apart from storage, the mixing of batches is needed.	Applicable – All storage at the facility is enclosed (e.g. containers, tanks, etc). There are no storage sheds onsite. Silos	In Place (or Ongoing). BAT as it applies to the new development will be in place following

	are currently onsite to hold plastics for the medical devices production.	completion of construction of the suite and grant of the IE licence review.
BAT 73. BAT for silos is to apply a proper design to provide stability and prevent the silo from collapsing. See Sections 4.3.4.1 and 4.3.4.5.	Applicable – Silos designed in accordance with BAT	In Place
BAT 74. BAT for sheds is to apply proper designed ventilation and filtering systems and to keep the doors closed. See Section 4.3.4.2.	Not Applicable – No storage sheds	N/A
BAT 75 BAT is to apply dust abatement and a BAT associated emission level of 1 – 10 mg/m ³ , depending on the nature/type of substance stored. The type of abatement technique has to be decided on a case-by-case basis. See Section 4.3.7.	Not Applicable – No dust abatement required for the new and existing facility.	N/A
BAT 76. For a silo containing organic solids, BAT is to apply an explosion resistant silo (see Section 4.3.8.3), equipped with a relief valve that closes rapidly after the explosion to prevent oxygen entering the silo, as described in Section 4.3.8.4.	Not applicable – No silos	N/A
5.3.4 Preventing incidents and (major) accidents		
BAT 77. BAT in preventing incidents and accidents is applying a safety management system as described in Section 4.1.7.1.	Applicable - Safety System, Accident Prevention and Emergency Response Procedures in use and to be amended for new processes.	In Place (or Ongoing). BAT as it applies to the new development will be in place following completion of construction of the suite and grant of the IE licence review.

5.4 Transfer and handling of solids 5.4.1 General approaches to minimise dust from transfer and handling		
BAT 78. BAT is to prevent dust dispersion due to loading and unloading activities in the open air, by scheduling the transfer as much as possible when the wind speed is low. However, and taking into account the local situation, this type of measure cannot be generalised to the whole EU and to any situation irrespective of the possible high costs. See Section 4.4.3.1.	Not Applicable – no material transfer in open air for the new and existing facility.	N/A
BAT 79. When applying a mechanical shovel, BAT is to reduce the drop height and to choose the best position during discharging into a truck; see Section 4.4.3.4.	Not Applicable – no mechanical shovels to be used during standard operations	N/A
BAT 80. BAT then is to adjust the speed of vehicles on-site to avoid or minimise dust being swirled up; see Section 4.4.3.5.2.	Applicable – vehicles on site will be subject to speed limits – note no significant dust generated by the activity.	In Place
BAT 81. BAT for roads that are used by trucks and cars only, is applying hard surfaces to the roads of, for example, concrete or asphalt, because these can be cleaned easily to avoid dust being swirled up by vehicles, see Section 4.4.3.5.3. However, applying hard surfaces to the roads is not justified when the roads are used just for big shovel vehicles or when a road is temporary.	Applicable - all access roads are hard standing surfaces (concrete or asphalt)	In Place
BAT 82. BAT is to clean roads that are fitted with hard surfaces according to Section 4.4.6.12.	Applicable – all roads are checked and cleaned periodically for the new and existing facility; however, it is not anticipated that the site roads will be dirty due to the infrequent number of deliveries. All deliveries will be coming from the National Road Network.	In Place

<p>BAT 83. Cleaning of vehicle tyres is BAT. The frequency of cleaning and type of cleaning facility applied (see Section 4.4.6.13) has to be decided on a case-by-case basis.</p>	<p>Not Applicable – it is not anticipated that vehicles will be dirty when entering or leaving the site during normal operations for the new and existing facility. All deliveries will be coming from the National Road Network.</p>	<p>N/A</p>
<p>BAT 84. Where it neither compromises product quality, plant safety, nor water resources, BAT for loading/unloading drift sensitive, wettable products is to moisten the product as described in Sections 4.4.6.8, 4.4.6.9 and 4.3.6.1. Risk of freezing of the product, risk of slippery situations because of ice forming or wet product on the road and shortage of water are examples when this BAT might not be applicable.</p>	<p>Not Applicable – not expected to be relevant for the proposed product types or activity at the new and existing facility.</p>	<p>N/A</p>
<p>BAT 85. For loading/unloading activities, BAT is to minimise the speed of descent and the free fall height of the product; see Sections 4.4.5.6 and 4.4.5.7 respectively. Minimising the speed of descent can be achieved by the following techniques that are BAT:</p> <ul style="list-style-type: none"> • installing baffles inside fill pipes • applying a loading head at the end of the pipe or tube to regulate the output speed • applying a cascade (e.g. cascade tube or hopper) • applying a minimum slope angle with, e.g. chutes. 	<p>Not Applicable – not expected to be relevant for the proposed product types or activity at the new and existing facility.</p>	<p>N/A</p>
<p>BAT 86. To minimise the free fall height of the product, the outlet of the discharger should reach down onto the bottom of the cargo space or onto the material already piled up. Loading techniques that can achieve this, and that are BAT, are:</p> <ul style="list-style-type: none"> • height adjustable fill pipes • height adjustable fill tubes, and • height adjustable cascade tubes. <p>These techniques are BAT, except when loading/unloading non drift sensitive products, for which the free fall height is not that critical.</p>	<p>Not Applicable – not expected to be relevant for the proposed product types or activity at the new and existing facility.</p>	<p>N/A</p>

5.4.2 Considerations on transfer techniques		
<p>BAT 87. For applying a grab, BAT is to follow the decision diagram as shown in Section 4.4.3.2 and to leave the grab in the hopper for a sufficient time after the material discharge.</p>	Not Applicable – not expected to be relevant for the proposed product types or activity at the new and existing facility.	N/A
<p>BAT 88. BAT for new grabs, is to apply grabs with the following properties (see Section 4.4.5.1):</p> <ul style="list-style-type: none"> • geometric shape and optimal load capacity • the grab volume is always higher than the volume that is given by the grab curve • the surface is smooth to avoid material adhering, and • a good closure capacity during permanent operation. 	Not Applicable – not expected to be relevant for the proposed product types or activity at the new and existing facility.	N/A
<p>BAT 89. For all types of substances, BAT is to design conveyor to conveyor transfer chutes in such a way that spillage is reduced to a minimum. A modelling process is available to generate detail designs for new and existing transfer points. For more details see Section 4.4.5.5.</p>	Not Applicable – not expected to be relevant for the proposed product types or activity at the new and existing facility.	N/A
<p>BAT 90. For non or very slightly drift sensitive products (S5) and moderately drift sensitive, wettable products (S4), BAT is to apply an open belt conveyor and additionally, depending on the local circumstances, one or a proper combination of the following techniques:</p> <ul style="list-style-type: none"> • lateral wind protection, see Section 4.4.6.1 • spraying water and jet spraying at the transfer points, see Sections 4.4.6.8 and 4.4.6.9, and/or • belt cleaning, see Section 4.4.6.10. 	Not Applicable – no external conveyor belts in open air at the new and existing facility.	N/A
<p>BAT 91. For highly drift sensitive products (S1 and S2) and moderately drift sensitive, not wettable products (S3) BAT for new situations, is to: apply closed conveyors, or types where the belt itself or a second belt locks the material (see Section 4.4.5.2), such as:</p> <ul style="list-style-type: none"> • pneumatic conveyors • trough chain conveyors 	Not Applicable – no external conveyor belts in open air at the new and existing facility.	N/A

<ul style="list-style-type: none"> • screw conveyors • tube belt conveyor • loop belt conveyor • double belt conveyor <p>or to apply enclosed conveyor belts without support pulleys (see Section 4.4.5.3), such as:</p> <ul style="list-style-type: none"> • aerobelt conveyor • low friction conveyor • conveyor with diabolos. <p>The type of conveyor depends on the substance to be transported and on the location and has to be decided on a case-by-case basis.</p>		
<p>BAT 92. For existing conventional conveyors, transporting highly drift sensitive products (S1 and S2) and moderately drift sensitive, not wettable products (S3), BAT is to apply housing; see Section 4.4.6.2. When applying an extraction system, BAT is to filter the outgoing air stream; see Section 4.4.6.4.</p>	Not Applicable – no external conveyor belts in open air at the new and existing facility.	N/A
<p>BAT 93. To reduce energy consumption for conveyor belts (see Section 4.4.5.2), BAT is to apply:</p> <ul style="list-style-type: none"> • a good conveyor design, including idlers and idler spacing • an accurate installation tolerance, and • a belt with low rolling resistance. 	Not Applicable – no external conveyor belts in open air at the new and existing facility.	N/A