

GUIDANCE NOTE FOR MANUFACTURERS, IMPORTERS, BLENDERS, TRANSPORTERS, STORE KEEPERS AND SUPPLIERS OF AMMONIUM NITRATE BASED FERTILISERS



1. This note is to advise you of your responsibilities and the serious consequences in the event of a batch of ammonium nitrate fertiliser failing a Detonation Resistance Test (DRT).

The relevant regulations that control the manufacture, importation, keeping, carriage and supply of AN fertiliser in Great Britain are:

- (i) The Ammonium Nitrate Materials (High Nitrogen Content) Safety Regulations 2003 (AN Safety Regulations)
- (ii) The Control of Major Accident Hazards Regulations 1999, as amended (COMAH)
- (iii) EC Fertiliser Regulation 2003/2003
- (iv) The Fertiliser Regulations 1991
- (v) The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2007

2. Under the AN Safety Regulations 2003, only AN fertilisers with a valid DRT certificate may be supplied. As part of the enforcement of these Regulations, Trading Standards Officers (TSOs) sample AN material at random to ensure continued compliance. The Control of Major Accident Hazards Regulations 1999 (COMAH) as amended, have significant implications for anyone keeping AN fertilisers that fail a DRT. If AN material fails a DRT, the keeper of the material, or operator of the premises where it is present, must take action:

- (i) to render the AN material safe as required by Regulation 6 of the AN Safety Regulations within a timescale agreed with the Trading Standards Department.
- (ii) if holding 10 tonnes or more, notify the COMAH Competent Authority as required by Regulation 6 of the COMAH Regulations and prepare a major accident prevention policy as required by Regulation 5. These should be completed without delay and certainly within three months.
- (iii) if holding 50 tonnes or more, prepare a safety report as required by Regulation 7 of COMAH, and comply with other 'top tier' duties under the Regulations. The safety report should be sent to the Competent Authority without delay, and within a year. Timescales for other top tier duties are set out in the Regulations.

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- 3. A manufacturer, or importer, must also have a contingency plan in place should any AN material they are dealing with fail a DRT. It is essential, especially for importers, that they identify stores/blenders that will receive material that has failed a test and that those sites have taken the required action as outlined in paragraph 2 above.**
- 4. It is impossible to guarantee that an operator will not handle material that fails a DRT. Therefore a contingency plan must be in place to address how such a situation will be dealt with. Steps to be taken include:**
- (i) ensuring only good quality AN and AN fertilisers that are very unlikely to fail the DRT are handled (i.e. dense, hard prills)
 - (ii) having facilities to dilute the 'off-spec' with an inert material to render it safe.
 - (iii) identifying and making contingency arrangements with one or more fertiliser blenders who are prepared to undertake the rendering safe. Because of the quantities involved, it is probable that any blending site will be a COMAH top tier site and material that has failed a DRT should only be accepted by the blending operator if the safety report for the installation (that addresses such material) has been assessed by the Competent Authority.
 - (iv) ensuring that the ports of entry either have the necessary COMAH top tier sites at port side or there are blenders within close proximity to the port who will be prepared to undertake the rendering safe. Alternatively importers may wish to consider returning the consignment to its place of origin.
 - (v) recycling the product through the manufacturing process.
 - (vi) notifying customers in the event of material having reached the final user and subsequently proven to have failed a DRT.

Details of the relevant legislation and requirements are set out in the attached Annex.

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Main requirements of the AN Materials (High Nitrogen Content) Safety Regulations 2003

1. The main purpose of the AN Safety Regulations is to reduce the safety risks posed by the production, transportation and importation of AN (most of which is used as a fertiliser). The Regulations require anyone in Great Britain producing, importing or storing relevant material to obtain a certificate to indicate that such material has passed a Detonation Resistance Test (DRT). A DRT certificate is required for material containing AN (including mixtures) in which the nitrogen content from AN exceeds 28% by weight.

Quantities less than 500 kg and material classified as an explosive are exempt.

AN Safety Regulations 2003 and the DRT

2. The Safety Regulations require that all solid AN fertilisers with a nitrogen content of greater than 28% from ammonium nitrate (i.e., AN content > 80%) undergo a DRT carried out at an accredited laboratory. Material not intended for use as a fertiliser must have an exemption certificate from the HSE. Further details can be found on the HSE web site www.hse.gov.uk/explosives/anexemp.pdf

This applies equally to material manufactured in GB, imported from the European Union and/or imported from all other sources.

Material, which is not supported by an appropriate DRT, cannot be marketed as a fertiliser.

Under these Regulations when the delivery point is not the final user (e.g. farmer) suppliers of relevant AN must provide their customers with a unique numbered copy of the DRT certificate. AN suppliers are reminded that compliance with this Regulation is dependant on the supplier maintaining an audit trail for the product from manufacture to final user. Original certificates, unique numbered copy certificates and records of transactions must be maintained for a period of at least two years after the date of supply. These Regulations apply to Great Britain only. Northern Ireland have their own controls on AN (the Explosives (Northern Ireland) Order 1972).

AN Safety Regulations requirements for material that fails a Detonation Resistance Re-Test

3. Under the AN Safety Regulations, an inspector has power to take samples of a consignment of AN material to send to a competent laboratory for re-testing. He will take one aggregate sample of no less than 75 kg and then divide that sample into three equal parts, each containing no less than 25 kg. The inspector will then:
 - (i) submit one part to be subjected to a DRT by a competent laboratory
 - (ii) give a second part to the keeper of the material
 - (iii) place a third part in a store and ensure it is maintained in a condition that is appropriate to prevent deterioration. This sample must be kept available in the event that the keeper of the material requests a further re-test.

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4. If the AN material fails this further Detonation Resistance Test it will be treated as 'off-spec'. As soon as practicable, the keeper is required to inform the inspector of the measures that will be taken. This can be:

- (i) to blend the batch with other suitable material so the resultant material is no longer relevant AN material and the risk of detonation is reduced to an insignificant level. This can be demonstrated by submitting the resultant product to a DRT re-test.
- (ii) to otherwise reduce the risk of detonation to an insignificant level for example by dissolution in water to make AN solution.
- (iii) the keeper of the material has the right to request the third sample is submitted for a re-test to an independent EU competent laboratory. If this further test confirms the invalidity of the original certificate the keeper remains responsible for the safe disposal of the AN material.

AN Safety Regulation Competent Authority powers

5. Primary responsibility for the enforcement of the AN Safety Regulations lies with the local Trading Standards Departments. Enforcement Officers are supported, if required, by the Health and Safety Executive when safety issues are involved. HM Revenue & Customs also exercises certain powers in respect of imported material.

Main requirements of the COMAH Regulations

6. The main duties in COMAH are placed on operators of establishments. This could include operators of fertiliser manufacturing plants, blending facilities, or storage facilities at ports/harbours and warehouse or distribution centres or any other premises where ammonium nitrate fertiliser is present or its presence can be anticipated.

COMAH applies at two tiers, or levels:

- (i) lower tier duties for the operator include a requirement to take all necessary measures to prevent major accidents and limit their consequences to people and the environment, notification to the COMAH Competent Authority (CA) and the preparation of a major accident prevention policy, and
 - (ii) top tier duties require, in addition, a safety report, the preparation of an external emergency plan by the local authority, and the provision of information to the public.
7. COMAH contains timescales for operators to comply with these duties. The timescales vary depending on how operators have come into scope: this could either be because of a planned increase in the quantity of fertiliser at the establishment e.g. a blending plant decides to increase the quantity of fertilisers it handles, or for other reasons e.g. fertiliser is re-categorised as "off-spec" whilst at the establishment because it has failed a DRT.
8. More specific information about how COMAH applies when "off-spec" material is present, together with the timescales for complying, is given in the following paragraphs.

Once a site becomes subject to the COMAH Regulations, certain activities undertaken by the CA are subject to charging. Guidance on charging can be found at www.hse.gov.uk/charging/index.htm

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COMAH and Ammonium Nitrate Fertiliser

9. COMAH (as amended) applies to premises (called ‘establishments’ in COMAH) where AN fertiliser is, or is likely to be, present at or above the following quantities:

Type of fertiliser	Lower tier qualifying quantity (tonnes)	Top tier qualifying quantity (tonnes)
Note 1. Fertilisers capable of self-sustaining decomposition*	5000	10,000
Note 2. Fertiliser grade*	1250	5000
Note 3. Technical grade*	350	2500
Note 4. Off-spec material and fertilisers not satisfying the detonation resistance test*	10	50

(*Notes 1 - 4: technical specifications are explained in the Regulations)

COMAH and the DRT

10. Part of the technical specification in COMAH for AN fertilisers is that some fertilisers capable of self-sustaining decomposition (Note 1 in the table above) and all fertiliser grade material (Note 2) must satisfy the DRT described in the AN Safety Regulations 2003.

11. If these fertilisers are sampled and do not pass the DRT, they are re-categorised for COMAH purposes as “off-spec” material and the decreased qualifying quantities of Note 4 apply. The main exception is where the fertiliser has already reached the final user i.e. a farm and is temporarily present before being applied as a fertiliser or returned for reworking, recycling or other treatment to enable safe use.

12. In all other cases, fertiliser that fails the DRT and becomes “off-spec” material has implications for the establishment. More than likely, the site would immediately become subject to COMAH top tier requirements, unless the quantities were well below those normally involved in fertiliser storage.

COMAH and operators of storage facilities

13. Operators of establishments where AN fertilisers are being stored may not be the legal owners of the material and may be unable to make decisions over what should happen to it. In such cases, they will be heavily reliant on information and assistance from whoever owns the material or is otherwise responsible for it. Operators of these establishments should discuss in advance, with whoever is responsible for the fertiliser, what plans they have to deal any material that fails a DRT whilst at their establishment.

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Unanticipated presence of “off-spec” material

14. Where 10-50 tonnes or more of fertiliser fails a DRT, for the purposes of COMAH, this is considered to be a change of classification of the material. An operator previously outside the scope of COMAH will need to take the following actions (within the specified timescales where indicated):
- (i) take all measures necessary to prevent major accidents and limit their consequences (regulation 4). This would include making arrangements for rendering the material safe as required by the AN Safety Regs;
 - (ii) notify the CA within three months (regulation 6(3A));
 - (iii) prepare the major accident prevention policy (MAPP) without delay, but within three months (regulation 5(1)). If the establishment enters COMAH at the top tier, the MAPP is part of the safety report;
 - (iv) send a safety report to the CA within 12 months of the change of classification becoming known (regulation 7(10A));
 - (v) prepare an on-site emergency plan within 12 months (regulation 9(2) (d)); and
 - (vi) provide information to the local authority within 12 months to enable it to prepare an off-site emergency plan (regulation 10(3) and (4))
 - (vii) provide information to members of the public within a reasonable time of the local authority preparing an off-site emergency plan for the establishment (regulation 14).
15. A reduction in the quantity of “off-spec” material to below COMAH levels or the re-working of the material to reduce the risk of detonation will enable the establishment to drop outside the scope of COMAH or move from the top to the lower tier (subject to the Regulations applying at the establishment for other reasons and the quantities remaining). If an operator wishes to drop outside the scope of COMAH, notification of that intention should be sent to the CA. www.hse.gov.uk/comah/notification/index.htm

Anticipated presence of ‘off-spec’ material

16. If operators, who have dropped outside the scope of COMAH (see 15), then have ‘off-spec’ fertiliser at their establishment on more than one further occasion, the CA would consider that the presence of ‘off-spec’ material could be ‘anticipated’. The CA would require the operator to comply fully with all relevant aspects of COMAH (regulation 2(3)).
17. In such cases an operator’s duties under COMAH are the same as those listed above, but the timescales for compliance are different for some duties. This is because the establishment is considered to have become subject to COMAH because of an increase in the quantity of dangerous substances present (regulation 2(6)) and not because of change of classification. The following duties and timescales therefore apply:
- (i) take all measures necessary to prevent major accidents and limit their consequences (regulation 4). This would include arrangements for rendering the material safe as required by the AN Materials (High Nitrogen Content) Regulations 2003;
 - (ii) notify the CA (regulation 6(2)). This should be done before the establishment accepts COMAH quantities of material. As COMAH quantities will already have been exceeded, the notification will need to be sent immediately;

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- (iii) prepare the major accident prevention policy (MAPP) without delay, but within three months (regulation 5(1)). If the establishment enters COMAH at the top tier, the MAPP is part of the safety report;
- (iv) send a safety report to the CA (regulation 7(5)). As with the notification duty, this should be done before the establishment accepts COMAH quantities of material. As COMAH quantities will already have been exceeded, the safety report will become due immediately;
- (v) prepare an on-site emergency plan (regulation 9(2) (c)). As with the notification and safety report duties, this will become due straight away;
- (vi) provide information to the local authority straight away to enable it to prepare an off-site emergency plan (regulation 10(3) and (4)).
- (vii) provide information to members of the public within a reasonable time of the local authority preparing an off-site emergency plan for the establishment (regulation 14).

COMAH and operators of blending etc sites

18. If the proposed action to render “off-spec” material safe is to send it to another site for blending/treatment, the blending site must be able to accept the material (in COMAH terms). If the quantities are such that the blending site would become a top tier establishment, the pre-operation requirements of COMAH will apply, e.g. a pre-operation safety report must have been assessed by the CA and the conclusions of that assessment communicated to the operator. Preparation and assessment of a safety report takes many months and therefore if a site has not been through the process before a failed batch needs to be blended, it will not be able to handle the material.

COMAH Competent Authority powers

19. The CA has the power to prohibit the operation of an establishment that does not comply with COMAH within the specified timescales. This course of action is very much a last resort and would only be taken after full discussion with the operator. It is therefore important that operators contact the CA as early as possible after learning that they have or anticipate having “off-spec” material at their establishment to discuss how COMAH may affect them.

Main Requirements of the Transport Regulations

20. The transport regulations require packages and bulk loads of AN to be transported in a safe manner by using suitable containers, trained staff and correctly placarded vehicles. Further details can be sought from your Dangerous Goods Safety Adviser and ADR www.unece.org/trans/danger/publi/adr/adr_e.html
21. The Regulations also require the material that is to be transported to be stored and moved securely. This has to be done by improving the physical security and access of the site, raising security awareness amongst staff and carrying out a security risk assessment. Further details can be found at www.dft.gov.uk/security/dangerousgoods

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Issues to consider in making 'off-spec' material safe

22. Operators and others responsible for "off-spec" fertiliser will need to consider:

- (i) arrangements for re-working the fertiliser to render it safe and reducing the risk of detonation. This could include re-working in situ e.g. using mobile blending facilities, or transfer to a manufacturer or blending site for treatment. The latter is the more likely option given the limited availability and experience of mobile blending facilities;
- (ii) availability and proximity of blending/re-working sites. Using a local blending site will reduce risks during transport;
- (iii) how failed material will be kept safe from detonation before it is re-worked in-site or transferred elsewhere; and
- (iv) arrangements for safely transporting "off-spec" fertiliser to e.g. a blending site (the transport of dangerous substances and their intermediate temporary storage are outside the scope of the COMAH Regulations).

Where can I obtain further information?

23. General information about COMAH: www.hse.gov.uk/comah/index.htm

A guide to the Control of Major Accident Hazards Regulations (L111 revised)
ISBN 0-7176-6175-X available from HSE Books

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