aic
agricultural industries confederation

CODE OF PRACTICE FOR
THE PREVENTION OF WATER POLLUTION
FROM THE STORAGE AND HANDLING OF FLUID FERTILISERS

PART 2 – TANKER DRIVERS

2014

PRODUCED IN CONSULTATION WITH

Environment Agency

Cyfoeth Naturiol Cymru Natural Resources Wales

SEPA Scottish Environment Protection Agency

NIEA www.daera-ni.gov.uk/niea Northern Ireland Environment Agency

PART 2 – TANKER DRIVERS

This Code of Practice for the Prevention of Water Pollution from the Storage and Handling of Fluid Fertilisers (hereafter referred to as the 'Code') is in three parts:

PART 1 – SUPPLIERS

PART 2 – TANKER DRIVERS

PART 3 – USERS

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PREFACE

As a haulier of fluid fertilisers, you are loading, transporting and delivering materials which, if spilled in quantity, can be very damaging to the water environment. This Code of Practice has been drawn up to help you reduce the risk of causing water pollution as a result of losing fluid fertiliser from inappropriate containment during loading, transport and delivery to a farmer's property.

There is clear economic benefit in reducing nutrient losses to the wider environment, whether from accidental spillage, poor management practices or vandalism. Any of these could result in water pollution which could have serious consequences, both legal and financial. The costs of pollution clean-up and any fish restocking, for example, would be charged to the polluter or relevant parties. With some forethought and planning for emergencies you should be able to answer the question: 'What would be the consequences of a major spillage of fluid fertiliser during transport or delivery?'

You must know what to do and how to react to an accident or emergency so as to minimise the chances of causing pollution. Preplanning is essential so that you avoid having to deal with a real incident unprepared. Pollution of surface waters by fertiliser is a serious matter but at least it is possible to monitor it directly and carry out remedial action, albeit at some cost. If a major spillage of fluid fertiliser onto the ground is allowed to soak away, any groundwater contamination will be impossible to monitor except by costly techniques and may be impossible to remedy. Pollution of groundwater is potentially very serious because this water can be used extensively for public drinking water supplies and for industrial and agricultural use. The environment agencies in England, Wales, Scotland and Northern Ireland have identified all groundwater resources and have specific policies for the protection of sources through the control of activities and development in close proximity to source extraction boreholes. Groundwater resources and extraction boreholes are valuable and expensive assets. It is essential that those transporting fluid fertilisers have emergency plans to deal with a major spillage. The objective must be to ensure that pollution is prevented and that fluid fertiliser is not allowed to soak through the soil directly or by way of drains and soak-aways in these vulnerable areas.

If you require more specific information about the sensitivity of a particular site with respect to the water environment, the environment agencies are always willing to offer advice.

AIC also publishes a **Code of Practice for the Prevention of Water Pollution from the Storage and Handling of Solid Fertilisers.**

PART 2 – TANKER DRIVERS

2.1 INTRODUCTION

2.1.1 This is '*Code of Practice for the Prevention of Water Pollution from the Storage and Handling of Fluid Fertilisers*' is a practical guide for the prevention of water pollution to help all those involved with **fluid fertilisers**.

2.1.2 This Code is without prejudice to any other legal obligations, safety requirements or other codes of practice.

2.1.3 Following this Code is not a defence against a charge of causing pollution, although it should reduce the chance of pollution occurring and will help provide proof of due diligence and good working practice.

2.1.4 Tanker drivers should ensure that they carry adequate insurance cover against liability for pollution. Special policies which cover Environmental Impairment Liability are available from a number of insurance companies.

2.1.5 This Code does not cover guidance for the appropriate usage of fluid fertilisers. Reference should be made to Protecting Our Water, Soil and Air: a Code of Good Agricultural Practice (Defra -. England), Prevention of Environmental Pollution from Agricultural Activity (Scottish Government - Scotland), and the Code of Good Agricultural Practice (DARD – Northern Ireland), and also to published fertiliser recommendations. See Fertiliser Manual (Appendix 1).

2.1.6 This Code has been drawn up in consultation with the Environment Agency England, Natural Resources Wales, the Scottish Environment Protection Agency and the Northern Ireland Environment Agency.

2.2 DEFINITIONS

For the purposes of this Code, the term:

2.2.1 '**Tanker Driver**' shall mean the driver of any vehicle designed to transport and deliver liquid fertilisers in bulk and semi-bulk (IBCs).

2.2.2 '**Supplier**' shall refer to the manufacturer, importer, distributor, merchant, or other organisation or individual who supplies the **user** with **fluid fertiliser**.

2.2.3 '**User**' shall mean the farmer, grower, application contractor and all organisations or individuals responsible for the end-use of fluid fertilisers (Part 3 of this Code).

2.2.4 '**Fluid Fertiliser**' shall include all solution fertilisers (otherwise known as liquid fertilisers), suspension fertilisers and aqueous ammonia solutions not exceeding 34% ammonia. Organic-based fluids containing plant nutrients such as farm slurries, AD digestate, sewage sludges or other effluents are expressly excluded.

2.2.5 '**Watercourse**' shall include all surface water whether coastal water, estuary, lake, pond, river, stream, canal and field ditch, (even when dry), unless it is a containment ditch.

2.2.6 '**Groundwater**' shall be defined as water which is below the surface of the ground in the saturation zone and in direct contact with the ground and/or water held in underground rock formations (aquifers). For the purposes of this Code it is considered that pollution of **groundwater** could result from incidents occurring where such aquifers outcrop at or near the soil surface, or occurring within 50 metres of a water abstraction borehole, or where no protection of the underlying water exists, e.g. where there are soakaways, swallow holes or quarries.

2.2.7 '**Major Spillage**' shall -refer to a spillage which cannot be controlled and/or which involves significant loss of the spillage causing pollution of a **watercourse** or of **groundwater**.

2.3 GENERAL PRINCIPLES

2.3.1 All procedures shall be designed to avoid the loss of **fluid fertiliser** from containment during loading, transport and delivery to the **user's** property.

2.4 LOADING, TRANSPORT AND DELIVERY

2.4.1 On-site loading procedures should be followed to prevent accidental spillage from valves, pipework or overfilling.

2.4.2 Emergency procedures should be drawn up so that appropriate actions are taken in the event of a road traffic or other accident occurring in transit (Paragraphs 2.8 and 2.9).

2.4.3 Emergency procedures should be drawn up for use in the event of a **major spillage** occurring during **fluid fertiliser** transfer on the **user's** property to ensure that appropriate actions are taken to contain the spillage and prevent any pollution of a **watercourse** or **groundwater** (Paragraph 2.9.7).

2.4.4 Emergency procedures drawn up to minimize any polluting effects of spillage of **fluid fertiliser** in transit or during delivery should include arrangements for reserve tankers to recover polluted waters from **watercourses** where possible.

2.4.5 Procedures for the delivery to farm and offloading of **fluid fertiliser** should include instruction that the **fluid fertiliser** is transferred in such a way that spillage which could lead to pollution, does not occur, that hatches and valves are securely closed at all times when being moved and that valves are inoperable when unattended.

2.4.6 A tanker driver should refuse to offload the **fluid fertiliser** or park the tanker if he considers the storage and/or transfer conditions inappropriate. Reference should be made to Part 3 of this Code for guidance on appropriate on-farm storage.

2.4.7 All hatches and valves should be securely closed before tankers are moved and valves of laden tankers or bowsers are inoperable when unattended.

2.4.8 The person undertaking any transfer of **fluid fertiliser** must be aware of all relevant procedures and be capable of taking appropriate action in the event of an incident. They shall remain present and monitor pipework and the receiving tank at all times during the transfer of **fluid fertiliser.**

2.4.9 Tanks or bowsers should not be filled to capacity, so as to allow for the expansion of the contents in warm weather.

2.5 FERTILISER APPLICATION CONTRACTORS

2.5.1 Procedures should have been drawn up **by the supplier** (see Part 1 of this Code) for the delivery of **fluid fertiliser** for the use of fertiliser application contractors. As part of these procedures, delivery **tanker drivers** should be satisfied that the receiving store is in a fit condition, has the necessary spare capacity to receive the load, allowing for expansion of contents and is appropriately sited, taking account of any nearby **watercourse** is appropriately sited before off-loading or parking. Delivery drivers may refuse delivery if in their opinion the storage and/or transfer conditions or location are inappropriate.

2.5.2 If **fluid fertiliser** is transferred on farm for use by fertiliser application contractors this is often into mobile bowsers which may be supported on parking legs designed for the purpose.

2.5.3 No **fluid fertiliser** should be delivered into bowsers or tankers supported on parking legs unless these legs are resting on made-up roadway or concrete of known and adequate thickness or are resting on a support of suitable size and thickness, to carry the loaded weight of the bowser without it sinking into ground and becoming unstable.

2.5.4 All hatches and valves should be securely closed before tankers are moved and valves of laden tankers or bowsers should be inoperable when unattended.

2.5.5 The person undertaking any delivery or transfer of **fluid fertiliser** must be aware of all relevant procedures and be capable of taking appropriate action in the event of an incident. They shall remain present and monitor pipework and the receiving tank at all times during transfer of **fluid fertiliser**.

2.6 INCIDENT MANAGEMENT AND REPORTING

2.6.1 In the event of an incident involving a laden tanker which results in a **major spillage** of aqueous ammonia (i.e. one in which the spillage cannot be controlled and/or which involves significant spillage to **watercourse** or potentially to **groundwater**), the tanker driver should take the action outlined at 2.8 below

2.6.2 In the event of an incident involving a laden tanker which results in a **major spillage** of **fluid fertiliser** other than aqueous ammonia (i.e. one in which the spillage is significant and/or cannot be contained), should take the action outlined at 2.9 below.

2.7 FLUID FERTILISER STORAGE, LAGOONS

Tanker drivers should ensure that they are adequately informed about the appropriate procedures designed to avoid the pollution of **watercourses** and **groundwater** and the health and safety information outlined in the Product Safety Data Sheets (Appendix 3).

2.8 EMERGENCY PROCEDURES IN THE EVENT OF AN INCIDENT - AQUEOUS AMMONIA

2.8.1 In the event of an incident involving a laden tanker which results in a **major spillage** of aqueous ammonia (i.e. one in which the spillage cannot be controlled and/or which involves significant spillage to **watercourse** or potentially to **groundwater**), the following steps must be taken:

2.8.2 Immediately raise the alarm in order to notify the Police and Fire Brigade of the spillage. (Some thought must be given to the method of raising the alarm to avoid leaving the site unattended). Use CB, in-cab or mobile phone or get passers-by to telephone on your behalf, taking care to give them the correct information to pass on to the Emergency Services. Only leave the site of the spillage to telephone provided the area can be made reasonably safe, On notifying Police and Fire Brigade, give the:

- location of the spillage,
- type of material spilled, stressing it is Aqueous Ammonia, not Anhydrous Ammonia,
- approximate amount of material involved,
- emergency number on the Hazchem Label 2P 2672,
- emergency telephone No. of supplier of the aqueous ammonia.

Tel No.....

2.8.3 Ask the Police/Fire Brigade to notify the appropriate environment agency: Environment Agency England, Natural Resources Wales, Scottish Environment Protection Agency or Environment and Heritage Service Northern Ireland.

Tel No.....

2.8.4 Wear protective clothing and stay up-wind. Remain at (or return to) the location until the Emergency Services arrive. Keep members of the public away from the area.

2.8.5 As soon as possible after alerting the Emergency Services notify your own employer and the supplier of the aqueous ammonia, if not already informed.

2.8.6 Ensure that no oxy-acetylene cutting equipment is used on or near the tanker or bowser. This also applies to tankers or bowsers which have been emptied of aqueous ammonia but not yet washed out.

2.8.7 Discuss with the Emergency Services/ environment agencies the possible need to protect or dam any nearby watercourse to ensure containment of the spillage and any wash-down water used. In the event of a minor spillage such as a leaking hose or valve the procedure should be as follows:

- respirators and gloves must be worn,
- stop the leak,
- douse liberally with water, without run-off to watercourse,
- effect repair if possible or inform employer/ supplier
- inform the farmer of the occurrence.

2.9 EMERGENCY PROCEDURES IN THE EVENT OF AN INCIDENT - FLUID FERTILISERS, EXCLUDING AQUEOUS AMMONIA.

2.9.1 In the event of an incident involving a laden tanker which results in a **major spillage** of **fluid fertiliser** other than aqueous ammonia (i.e. one in which the spillage is significant and/or cannot be contained), the following steps must be taken:

On the public highway:

2.9.2 If the spillage occurs on a public highway, perhaps as the result of a road traffic accident, immediately raise the alarm in order to notify the Police and Fire Brigade of the spillage. (Some thought must be given to the method of raising the alarm to avoid leaving the site unattended). Use, CB, in-cab or mobile phone or get passers-by to telephone on your behalf, taking care to give them the correct information to pass on to the Emergency Services. Only leave the site of the spillage to telephone provided the area can be made reasonably safe. On notifying Police and Fire Brigade, give the:

- location of the spillage,
- type of material spilled,
- approximate amount of material involved,
- emergency Hazchem description, i.e.: 1Z Non-Hazardous,

Tel No.....

2.9.3 Ask the Police/Fire Brigade to notify the appropriate environment agency: Environment Agency England, Natural Resources Wales, Scottish Environment Protection Agency or Environment and Heritage Service Northern Ireland.

Tel No.....

2.9.4 Remain at (or return to) the location until the Emergency Services arrive.

2.9.5 As soon as possible after alerting the Emergency Services notify your own employer and the supplier of the fertiliser.

Tel No.....

2.9.6 Discuss with the Emergency Services/ Environment Agencies the possible need to protect or dam any nearby **watercourse** to ensure containment of the spillage/wash down water.

On the farmer's property,
(tanker, bowser or storage tank):

2.9.7 Immediately contact the appropriate environment agency, or contact the supplier of the fertiliser, the farmer and your employer and request that the appropriate environment agency be informed. Remain on site until released by the fertiliser supplier/your employer Take appropriate action to minimise the spillage and to prevent the pollution of **watercourses/ groundwater**, perhaps using earth barriers/ dams.

2.9.8 In the event of a minor spillage such as a leaking hose or valve the procedure should be as follows:

- wearing goggles and gloves, stop the leak,
- where practicable contain the spillage and mop it up,
- effect repair if possible or inform employer/ supplier

Tel No.....

2.9.9 Records should be kept of all reported incidents involving spillage resulting from a road traffic or other accident in transit and from any **major spillages** occurring on farm.

APPENDIX 1

SOURCES OF INFORMATION

Protecting our Water, Soil and Air: a Code of Good Agricultural Practice for Farmers, Growers and Land Managers, Defra, 2009.
The Stationery Office, ISBN 978 0 11 243284 5
www.gov.uk/government/publications/protecting-our-water-soil-and-air

Prevention of Environmental Pollution from Agricultural Activity
The Scottish Government, 2005, ISBN 0 7559 4106 3.
www.scotland.gov.uk/Publications/2002/06/14968/7848

Code of Good Agricultural Practice
DARD, 2008, ISBN 978 1 84807 068 4.
www.dardni.gov.uk/cogap

Fertiliser Manual (RB209) 8th Edition, 2010
The Stationery Office, ISBN 978 0 11 243286 9
www.gov.uk/government/publications/fertiliser-manual-rb209

SRUC Technical Notes: Fertiliser Series
www.sruc.ac.uk

Eurocode 2. Design of concrete structures. Liquid retaining and containing structures
BS EN 1992-3:2006
www.techstreet.com/products/1278297

Groundwater protection: Principles and practice (GP3)
www.environment-agency.gov.uk/research/library/publications/144346.aspx

Recommendations for Safe Storage and Handling of Wet Process Phosphoric Acid, (Phosphoric Acid Produced from Sulphuric Acid), 1991
EFMA, Avenue E Van Nieuwenhuyse 4,
B-1160, Brussels
www.fertilizerseurope.com

Hazardous Properties of Ammonia, 1990
EFMA, Avenue E Van Nieuwenhuyse 4,
B-1160, Brussels
www.fertilizerseurope.com

Code of Practice for the Prevention of Water Pollution from the Storage and Handling of Solid Fertilisers
Agricultural Industries Confederation, 2009,
Confederation House, East of England Showground,
Peterborough, PE2 6XE
www.agindustries.org.uk

Guidance for the Preparation of Safety Data Sheets for Fertilizer Materials 2008
EFMA, Avenue E Van Nieuwenhuyse 4,
B-1660, Brussels
www.fertilizerseurope.com

FACTS
For details of the FACTS Scheme and its qualified advisers in crop nutrition
Tel: 01335 343945
www.basis-reg.com/facts

THE ENVIRONMENT AGENCY ENGLAND
Free emergency incident telephone number: 0800 80 70 60
General enquiries: 03708 506506
www.environment-agency.gov.uk

NATURAL RESOURCES WALES
Free emergency incident telephone number: 0800 807060
General enquiries: 0300 065 3000
www.naturalresourceswales.gov.uk

SEPA
Free emergency incident telephone number: 0800 807060
www.sepa.org.uk

NORTHERN IRELAND ENVIRONMENT AGENCY
Free emergency incident telephone number: 0800 80 70 60
www.doeni.gov.uk

APPENDIX 2

PRIMARY LEGISLATION

EU Fertiliser Regulation (EC) No 2003/2003

EU REACH (Registration, Evaluation, Authorization and Restriction of Chemicals) Regulation No 1907/2006

EU Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures

The Nitrates Directive (EC) No 676/1991

The Water Framework Directive (EC) No 60/2000

Agriculture Act 1970

Consumer Protection Act 1987

Control of Pollution Act 1974, as amended

Environmental Protection Act 1990

Water Resources Act (England and Wales) 1991, as amended

Water (Northern Ireland) Order 1999

REGULATIONS

The Environmental Permitting (England and Wales) Regulations 2010.

Control of Substances Hazardous to Health Regulations 1994. SI No 437

Environmental Protection (Prescribed Processes & Substances) Regulations 1991 as amended, SI No 472

The Carriage of Dangerous Goods (Classification, Packaging and Labelling) and Use of Transportable Pressure Receptacles Regulations, 1996, SI No 2092

The Carriage of Dangerous Goods and Transportable Pressure Equipment Regulations, 2009, SI No 1348

The Fertilisers Regulations 1991, as amended, SI No 2197

The Transport of Dangerous Goods (Safety Advisers) Regulations 1999 SI No 257

The Nitrate Pollution Prevention (Amendment) Regulations 2012, SI 2012 1849*

The Nitrate Pollution Prevention (Wales) Regulations 2013, SI 2506 (W.245)*

The Action Programme for Nitrate Vulnerable Zones (Scotland) Amendment Regulations 2013, SI 2013/123*

Nitrates Action Programme Regulations (Northern Ireland) 2010, SI 411*

Phosphorus (Use in Agriculture) Regulations 2006, SI 488

Copies of all the above can be obtained from The Stationery Office and some are online at www.opsi.gov.uk

**Subsequent reviews may apply*

APPENDIX **3**

PRODUCT SAFETY DATA SHEETS

Under the REACH Regulation, a safety data sheet (SDS) in the prescribed format must be provided by the producer of 'hazardous' substances or mixture for progression down the supply chain. The list of hazardous materials includes:

AN Hot Solution Mixture 80-93 percent eSDS

An SDS is not required if the substances/mixtures are not classified as hazardous. However, a producer may provide such documents, on request, as 'advisory information' sheets. Non-hazardous fertilisers include:

SDS FERTILISER GROUP 9
Fluid straight nitrogen ammonium nitrate-based fertilisers in the form of aqueous solutions.
www.agindustries.org.uk/latest-documents/sds-fg-9/

SDS FERTILISER GROUP 10
Fluid compound fertilisers (NPK, NP, NK) in the form of aqueous solutions or suspensions.
www.agindustries.org.uk/latest-documents/sds-fg-10/

APPENDIX 4

PROTECTING THE ENVIRONMENT

The essentials for storing solid and liquid fertilisers

Tanker/tank Inspection Check List

Fluid Fertiliser Storage Tank Environmental Risk Assessment for Spillages

Tanker/tank Sticker

Agricultural Industries Confederation
Confederation House
East of England Showground
Peterborough
PE2 6XE

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F 01733 385270
E enquiries@agindustries.org.uk
W www.agindustries.org.uk

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