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The World Phosphate Institute (IMPHOS) position on The draft proposal of a regulation of the European Parliament and the Council relating to Cadmium in fertilizers

A Serious threat to the traditional suppliers of the European Union

Introduction

As a heavy metal, Cadmium is harmful to the human health when ingested in high doses. In the European countries, the average cadmium intake with food is on the safe side: about 10 µg cadmium per day, while the official level of Provisional Tolerable weekly Intake (PTWI) of cadmium in food corresponds currently to 70 µg Cd (WHO, 1992). Most European countries seem to have a comfortable safety margin between the levels of current dietary cadmium exposure and the levels assumed to cause adverse health effects.

Acting from a belief that any new cadmium regulation needs to be based on adequate scientific evidence and should take account of all facts pertaining to phosphate fertilizer use, IMPHOS, as an association of major world phosphate producers, has made a considerable efforts towards the advancement of scientific and technical knowledge on cadmium in phosphate fertilizers and the food chain. Some examples of IMPHOS undertakings are listed below:

- In cooperation with EU, several reviews of literature covering different aspects of cadmium were conducted,

including a compilation of studies and processes used for cadmium removal from phosphate rock and phosphoric acid.

- A Process for cadmium removal from phosphoric acid was developed, again in cooperation with EU. The process was tested on a laboratory scale, but plans to carry it further to pilot-plant and industrial scales have not materialized yet.

- A symposium on "*Cadmium in Soils and Plants*", was cosponsored by IMPHOS and held at the University of California, Berkley, USA, in 1997.

- A collaboration agreement was signed in 1998 with the Scientific Committee on Problems of the Environment (SCOPE) in an effort to review cadmium in the environment.

- Together with SCOPE and the Belgian Academy of Sciences, IMPHOS held a workshop on "*Environmental Cadmium in the Food Chain: Sources, Pathways and Risks*" in Brussels, September, 2000.

- IMPHOS commissioned an extensive study to AF-MFG, a Swedish consultant bureau, in November, 2000.

Most of the above-mentioned IMPHOS undertakings have focused on the collection and compilation of scientific, objective and reliable data and information on risks posed to human health by cadmium from whatever source.

So far, the results from laboratory research were not conclusive and have not provided proof for detrimental effect of cadmium in the food chain.

Undeniably, these researches have helped the fertilizer industry plan to meet the challenge of new regulations. For example, the industry backed up efforts leading to the development of a technically and economically feasible technology for cadmium removal from phosphoric acid (decadmiation process), in the event that this technology becomes necessary as new scientific evidence looms ahead.

The European Commission launched on the Internet a consultation on "a draft proposal for a Regulation of the European Parliament and of the Council relating to cadmium in fertilizers"

This draft proposal,⁽¹⁾ prepared by the Directorate General Enterprise, establishes maximum limits concerning the cadmium content of fertilizers. Restrictive measures to phosphate fertilizers marketing in the European Union are applied. They are to be implemented

in three steps over a period of 15 years:

- 60 mg/kg P₂O₅, five years after the enforcement of the Directive;
- 40 mg/kg P₂O₅, ten years after the enforcement of the Directive;
- 20 mg/kg P₂O₅, fifteen years after the enforcement of the Directive;

DG ENTERPRISE is basing its proposal on three arguments:

1. A Council resolution adopted on 25 January 1988 advised the Commission to “pursue the elaboration of a programme of measures aimed at reducing exposure to cadmium”. Among these measures, reference is made in particular to decreasing “the cadmium content of raw materials used in the production of phosphate fertilizers”.

2. A regulatory precedent: 3 Member States (Sweden, Finland and Austria) have already restricted the cadmium content of fertilizers marketed on their national territories. The European Union has recently renewed a Community derogation authorizing these countries to maintain their provisions.

3. The conclusions of an ERM report (October 2001) relative to cadmium in fertilizers, which proposes 4 risk management strategies:

- restricting cadmium content in fertilizers
- taxing fertilizers with a high cadmium content
- managing cadmium concentration levels in soil
- “regionalizing” and identifying “vulnerable areas” or “high risk areas”

Against these arguments, we present below five counter arguments:

This draft proposal for a regulation threatens in the first place, the traditional suppliers of the European Union

About 80 to 90% of the global phosphate rock production is used as raw material for fertilizer manufacture.

Phosphate rock may be of either sedimentary or igneous origin.

Sedimentary phosphate rock is by far the most abundant (> 80 % of world production).

Sedimentary phosphate rock mining is also cost effective: by and large it is extracted from opencast mines located generally near coastal areas.

In contrast to phosphate rocks of igneous origin, sedimentary rocks contain significantly higher levels of trace elements, especially cadmium (20 times higher on the average).

13 countries account for more than 90% of world phosphate production. They are as follows in descending order of production capability: USA, China, Morocco, Russia, Tunisia, Jordan, Israel, Brazil, South Africa, Togo, Kazakhstan, Senegal, Algeria.

Although the USA and China are major producers, they export very little or no phosphate rock at all because they have to cover their large domestic requirement. Morocco is the world's leading phosphate rock exporting country.

In contrast, African countries used to supply the majority of the phosphate rock imported into the European Union, a figure which is likely to increase in the future due to the EU enlargement to other members.

In these countries and in several others on the list, the phosphate rock cadmium level is relatively high.

This draft proposal is not supported by scientific evidence

Cadmium is probably one of the substances whose toxicity has been the most thoroughly studied over the last few decades. Despite its classification as carcinogen by the International Agency for Research on Cancer (IARC), its carcinogenic effect remains a controversial issue. While toxicity levels in kidneys have been detected among workers significantly exposed to cadmium on the workplace in specific industries, e.g. smelters, recent in situ studies have demonstrated the reversibility of renal effects in those cases in which workers were removed from the site of exposure.

As far as the risks to the environment and human health from the use of phosphate fertilizers are concerned,

numerous scientific studies involving high levels of cadmium content led up to results that are far from conclusive.

The most recent studies were carried out in 1999 and 2000 by 8 Member States of the European Union and Norway, and used the same approach and methodology proposed by the ERM (Environmental Resources Management) – a consultancy group mandated by the Commission.

The report from the nine risk assessment studies was submitted to the CSTEE (Scientific Committee on Toxicity, Ecotoxicity and the Environment).

CSTEE opinion, which was issued on 24 September 2002, emphasized the fact that there are no imminent risks to human health, based on these risk assessment studies, and that it is advisable to hold on until the conclusions of the ongoing extended risk assessment of cadmium and cadmium oxide, are made available, soon.

Regarding the specific question of cadmium accumulation in soils, the CSTEE reached the following conclusions:

- for low fertilizer cadmium concentration (≤ 20 mg of Cd/kg P₂O₅), cadmium in soil tends to accumulate relatively slowly, or decreases after 100 years of application;
- for fertilizers with concentration of 60 mg of Cd/kg P₂O₅ and above, accumulation in agricultural soils over 100 years of application is relatively high.

Therefore, with respect to the environment, it is suggested that any impacts should be considered from a long-term perspective (more than 100 years). With respect to human health, CSTEE is of the opinion that it is advisable to wait for the conclusions of the study on risk assessment of “cadmium and cadmium oxide”.

The Extended Impact Assessment (EIA) attached to the draft proposal, stated that “the problem of cadmium accumulation in agricultural soil is neither urgent nor acute, and is not uniform across the EU”. It added that “the cadmium content in crop is linked with the cadmium content in soil, albeit in a complex manner that depends on factors such as crop type, soil type and climatic conditions...”.

These statements justify neither the approach of the Commission nor the urgent need to issue a regulation.

This draft proposal, if adopted, would have serious implications for the European Union itself, and would jeopardize its current supplies

The European Union, as it expands to 25 members, cannot rely exclusively on the producers of low cadmium phosphate to make up for 62% of its phosphate import loss from the African countries. Russia, for one example, cannot be a reliable source of supply, because it is clear that the current disorganization of its industry would not enable it to meet the challenge in the short run. In the long run, Russia, would have to allocate, as China does today, a more significant part of its resources to satisfying its own agriculture requirement, to the detriment of its phosphate export markets.

On the side of the traditional suppliers to the European Union (Morocco, Tunisia, Algeria...), the currently proposed measures by the European Union would have devastating impact.

In these countries, the phosphate industry accounts for a significant, if not critical percentage of their GDP, ranging from 20% to 50% of the total value of their export. It employs 50,000 people and accounts for 300,000 indirect jobs, with as many families indirectly dependent on those jobs for their living. The phosphate industry occupies a key position in national development plans, including many infrastructure development projects which would be at risk.

The application of restrictions in the first step being considered by the Draft Directive Proposal (60 mg of cadmium/kg of P₂O₅) would mean banning nearly the entire phosphate imports from these African countries, which would find their main commodity suddenly shut off the European Union market and probably soon shut off the world market.

All of them are bound to Europe by cooperation agreements and by other accords regulating immigration fluxes into Europe.

The application of the proposed measures would simply mean the termination of these agreements and economic and social instability for these developing countries, phosphate producing countries.

How can we allow measures that would result in losses of some 350,000 jobs? Can we accept that several million people lose their means of living in economically fragile countries, by taking measures on the ground of scarce and limited data, measures driven by claims of environmental impact that has yet to be demonstrated? At most, these measures do not have an urgent character and can wait.

The stepwise approach, proposed by the DG ENTERPRISE is irrelevant

The proposed steps and deadlines are completely irrelevant for at least three reasons:

Firstly, the bulk of the phosphate produced in the countries in question would be banned from the market upon the application of the very first level of restriction, at only 5 years from the date of the entry into force of the Directive, as already discussed. It is therefore not a matter of a grace period of 15 years from the adoption of the directive, but rather a deadline that falls within 5 years from its entry into force.

Secondly, the Directive will produce an immediate effect upon its entry into force as a result of traders' business conduct on the international market in anticipation of the application of the new regulations.

Thirdly, geological facts do not obey to EC Directives. The cadmium content of mined phosphate does not change within a short time, be it 10 or 100 years. Sedimentary phosphate rocks in Morocco, Tunisia, Algeria, Togo or Senegal will be definitely having the same level of cadmium for a long time in the future.

With respect to decadmiation, it is important to note that a pilot study at laboratory scale was conducted starting from 1993, with financial support from the European Union. The first phase of this project lasted for two

years (1993-1995) and succeeded in "Demonstrating the technical and economic feasibility of a process for the removal of cadmium from phosphoric acid at laboratory level, while holding promise for application at semi-industrial plant level".

The second phase should have been devoted to the implementation of this semi-industrial phase in order to confirm the conclusions of the feasibility study. Though the financing of this second phase was negotiated at length between 1995 and 1998, it never materialized.

"Decadmiation" remains, therefore, an option which should be seriously considered. However, its application should be situated in a timeframe which is not commensurate with the deadlines stated in the draft proposal of DG Enterprise. This decadmiation effort is not reconcilable with any premature announcement of thresholds and scheduled steps.

It is important to realize that for the involved countries, any required industrial restructuring of this magnitude can only be planned on a long-term basis. The sheer scale of the resources to be committed, the nature of the political and administrative decisions to be taken, and the timeframes for conducting studies and executing projects are simply incompatible with the pace that DG Enterprise would like to set.

Contrary to the explanations of the DG Enterprise provided in the draft proposal, decadmiation processes cannot be seriously considered as an alternative solution in the short-term or even the medium-term.

The adoption of the Draft Directive Project, as proposed by DG Enterprise, would permanently condemn the phosphate industry of these countries.

This proposal is in contradiction with several basic legal principles

Contrary to the statement made under the 9th preliminary point of the Draft Proposal, the proposed provisions contradict the principle of subsidiarity. In fact, «The problem of cadmium accumulation in agricultural soil (...) is not uniform across Europe », as stated by the appended

Extended Impact Assessment. Therefore, the objectives pursued by the Commission would be better served by national regulations adopted at Member States level in accordance with the conditions prevailing within their own territories.

Similarly, the planned provisions under the 9th preliminary point of the Draft Proposal contradict the **Proportionality Principle**. Indeed, these provisions are equivalent to a ban on imports from several countries which are longstanding EU partners. As a matter of fact, they put at stake 350.000 jobs, and threaten the livelihood of 2 millions people. Nobody could argue that this proposal offers instruments proportionate to solving a problem that is «neither urgent nor acute», as stated by the Extended Impact Assessment.

For the same reasons, these provisions contradict the **WTO principles** to the extent that they constitute technical barriers to world trade: they are not based on sufficiently substantiated scientific evidences, they are more restrictive than necessary to fulfill the objectives pursued by the policy,

and are not proportionate to these objectives as already stated above.

In conclusion, IMPHOS, as a representative of the major phosphate producing countries notes that:

- The Commission intends to treat this proposal as an urgent matter, which is not at all justified, as stated in the "Extended Impact Assessment".
- In doing so, it chose to disregard scientific arguments, but most of all, to ignore the CSTEÉ Opinion that stresses the lack of immediate risk and considers it advisable to wait for the release of the conclusions of the comprehensive risk assessment of cadmium and cadmium oxide.
- By preferring the first alternative in the ERM Report, DG ENTERPRISE is arbitrarily counting out the three other options from discussion and ruling out many other possible approaches. It is deliberately excluding the option of "the regional management of the risks", which is a much more appropriate approach to solve "(The problem of cadmium accumulation)... that is not uniform across Europe", according to the "Extended Impact Assessment" statement.

• The total content of cadmium in fertilizer is not demonstrated to be entirely bioavailable to the plants.

• It does not at all take into account the consequences on the producing countries in terms of human and social damage.

• Finally, it contradicts several basic principles of international laws.

Therefore IMPHOS requests the EC:

• To immediately freeze the regulatory process in progress.

• To wait for the release of the conclusions of the risk assessment of cadmium and cadmium oxide.

• On the basis of the Opinion of the CSTEÉ and scientific data, to reopen discussions with the stakeholders, particularly the producing countries, which clearly maintain interdependent ties with the European Union, even though they are not members of it.

The World Phosphate Institute (IMPHOS), in its capacity as representative of the phosphate producers, is keen and willing to engage in a discussion on the subject ■.

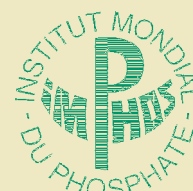
ABOUT IMPHOS

The world phosphate Institute (IMPHOS) is a non-profit Institute founded in 1973 by the world's principal producers of phosphate rock. Its main objective is to promote scientific research, agronomic, technical investigations and economic analysis of issues relevant to phosphate rocks and processed phosphates (Website: www.imphos.org)

The primary mandate of IMPHOS is to collect and disseminate the scientific data required for rational end use of a naturally occurring non-renewable

resource. Phosphate rock is a mineral resource that plays a key role in sustaining the growth of crop production to meet the food requirements of the increasing world population.

To promote this goal, IMPHOS is working closely with organizations that share the same beliefs, including IARC, FAO, IAEA, World Bank, Asian Development Bank, European Union, OECD, in addition to specialized committees such as SCOPE (Scientific Committee on problems of the Environment).



For more information, please consult:

IMPHOS
3, rue Abdelkader Al Mazini
BP. 15963, Casablanca-Principale
Morocco
Tel.: (212 – 22) 48 41 22/24
Fax: (212 – 22) 48 41 21
E-Mail: imphos@casanet.net.ma

IMPHOS MEMBER COMPANIES

Compagnie des Phosphates de GAFSA
 7-9 rue du Royaume d'Arabie Saoudite,
 1002-TUNIS, Tunisia
 Tel: 216 71 784 488/799 934/797 296
 Fax: 216 71 793 685
 Web site: <http://www.cpg.com.tn>

Groupe Office Chérifien des Phosphates (OCP)
 Angle route d'El Jadida et bd. La Grande Ceinture CASABLANCA, Morocco
 Tel: 212 22 23 00 25/23 10 25/23 01 25
 Fax: 212 22 23 06 35
 Web site: <http://www.ocpgroup.ma>

Jordan Phosphate Mines Co. Ltd (JPMC)
 PO Box 30, AMMAN, Jordan
 Tel: 962 6 560 70 10/6 560 71 41 Fax: 962 6 5 68 22 90/65 691290
 Web site: <http://www.jordanphosphate.com>

Industries Chimiques du Sénégal (ICS)
 Km 18 Route de Rufisque-M Bao
 BP. 3835, DAKAR, Senegal
 Tel: 221 8 34 01 22/34 21 23/34 01 23/34 08 14
 Fax: 221 8 34 07 01
 Web site: <http://www.ics.sn/ics-coop.htm>

EPE FERPHOS
 Zhun II, BP. 122, Djebel El Jorf
 TEBESSA 12000, Algeria
 Tel: 213 37 49 31 97
 Fax: 213 37 49 43 50/49 25 50

International Fertilizer Group-Togo (IFG-TG)
 BP. 379, LOME, Togo
 Tel: 228 222 50 13
 Fax: 228 221 71

