**Comments on Dichromium Tris(chromate) (EC No. 246-356-2)-Prioritisation recommendation**

As a registrant of the above substance we are providing comments on the recent proposals to prioritise the substance **dichromium tris(chromate)** for listing on Annex XIV for Authorization under REACH.

We do not believe that dichromium tris(chromate) should be prioritised for early prioritisation, ahead of other wider used candidate listed substances, for the following reasons:

- it is low volume (<<100MT) and only sold into a specialised, small number of niche industrial applications (for coil coating, oil and gas pipeline coating).
- exposure is already well controlled by an extensive number of workplace regulations, both at EU and local level.
- it is only used in industrial settings, reacted on contact and is not present in manufactured articles.
- it cannot be easily replaced at this time. More time is needed for alternatives to be developed and tested.
- we also believe the risk that this substance would act as natural replacement for uses of other chromates identified for prioritisation has been overstated.

The basis for our comments are as follows:

**1. Availability of Existing workplace regulation**

Because of its classification as carcinogen 1B1 (H350: “May cause cancer”) resulting from the chromium VI content a lot of different legislative acts has been in forced on national or EU level to protect human and the environment within the last decades.

The following require already that risks in use are well controlled:

Directive 98/24, Directive 2004/37 and Directive 2008/1/EC (IPPC) are existing EU legislation that properly control the risks to human health and/or the environment from the uses of dichromium tris(chromate) as described above and this legislation imposes minimum requirements for the control of risks of the use.

Indeed, Directive 98/24 is a Directive based on Article 118a of the EC Treaty, which provided for the adoption of minimum requirements in order to guarantee a better level of protection for the safety and health of workers and which allowed Member States to apply stricter (but not less stringent) requirements under certain conditions.

In the two countries in the EU, France and UK where the substance is used is mainly used the same OEL value of 0.05 mg/m³ applies. According to national enforcement workplace measurements have to be taken and are checked by the local authorities. Therefore the required minimum EU legislation is in place and suitable to protect workers.

In the ECHA background paper 2.2.2.2. Studies are stated which show significant exposure to worker, but they were performed for the use of Chromium (VI) compounds in different applications. None of the studies quoted in the background paper have been performed for the use of dichromium tris(chromate) in it uses. It has been assumed that the exposures are similar.

In the registration dossier safe use was adequately described and a lot of worst case assumption taken and still safe use was guaranteed. Therefore this assumption that the use of dichromium tris(chromate) is similar to other Chromates in other applications is overstated.

## 2. Main Uses and Availability of Alternatives.

It is a low volume substance used exclusively in industrial metal pre-treatment processes. It is supplied within a well-defined supply chain to industrial users. The uses are:

*Coil coating*
Steel coil is a vital material of construction. Steel coil may be used in the various applications. It is, however, very prone to corrosion (rust) in its untreated form and for many applications extended corrosion performance is essential. When steel coil is treated with dichromium tris(chromate) pre-treatment solutions and then painted, the insoluble chromium (III) oxide conversion layer formed on contact with the dichromium tris(chromate) imparts excellent corrosion in addition to adhesion properties in combination with the paint. This allows for very long protection against corrosion failure of articles made from the coated coil. In some potential applications (e.g. aircraft, trains, oil pipelines, buildings) premature corrosion failure may pose a risk to human health or environment, in addition to financial considerations.

Alternatives: While some progress has been made in this area for coil coating, it is our understanding, that these alternatives are not yet able to meet the requirements needed for high performance applications when extended corrosion life is required. These applications still require dichromium tris(chromate) to meet the performance requirements.

It should be further noted that testing and validation of alternatives requires time. While accelerated test methods are available to screen alternatives, in many applications, real world outdoor tests in actual conditions are needed. For example, significant differences

are expected between regions- e.g. dry inland areas will have very different demands to wet coastal areas (where high salt atmosphere accelerates corrosion) and to wet industrial city areas (where slightly lower pH atmosphere may also accelerate corrosion). Dichromium tris(chromate) formulations are also technically easy to operate, and tolerant to process variability. Alternative solutions will also need time to evaluate under production conditions to ensure corrosion performance remains consistent within the process operating window. These tests are needed before the alternatives can be written into specifications. In some cases capital investment and new equipment may need to be ordered and installed.

Manufacturers of articles with high corrosion performance requirements also need to have supporting data to provide extended warranties required by end users. Premature failure of some applications may lead to critical safety issues and this can therefore be an important factor in replacement technology. In summary, sufficient time must be allowed for alternatives to developed, screened and fully tested in use conditions.

*Oil and Gas Pipeline Coating*
Oil and Gas supply requires long pipelines to be built to transport crude oil and gas from the oilfields to processing refineries that are often thousands of kilometres away. Such pipelines are built periodically and need to last for significant periods of time, before replacement. Oil and gas pipelines often travel through uninhabited remote regions of the world and more frequent maintenance and or replacement is not desired. Moreover, premature failure can cause a leak that may cause major environmental impact or danger to human health due to uncontrolled emission highly flammable and environmentally hazardous crude oil and gas. Dichromium tris(chromate) is used in the anti-corrosion coating of oil gas pipelines when they are constructed. Again, the substance is reacted on the surface of the pipe and the substance will not be present in the final pipeline (articles). A significant proportion of oil pipeline construction and use is outside the EU.

Based on information we have, no satisfactory alternative has been identified that can meet the performance requirements for this use in oil and gas pipelines.

**Low Exposure to Man and Environment**

Dichromium tris(chromate) is manufactured for use in an **"industrial"** application in the form of dilute aqueous solutions. There are **no** uses by the general public and **no** foreseeable uses where the general public will come into contact with the substance. The substance is reacted on contact during treatment, so treated articles do not contain the substance.

Dichromium tris(chromate) is non-volatile and therefore air exposure will be limited to tasks where aerosols are formed. This is not normally expected during use of dichromium tris(chromate) in the main use. Also, dichromium tris(chromate) is classified as corrosive. Dermal exposure will be prevented through a combination of engineering controls and PPE. The registration dossier submitted for dichromium tris(chromate) included worst case conservative modelling for exposures to workers in its main uses.

The exposures estimates are lower than national OEL and lower than DMEL derived in our REACH dossier based on the SCOEL recommendation. Also, the Cr(VI) content in dichromium tris(chromate) is lower, diluted by Cr(III), than other Cr(VI) compounds and therefore the corresponding DMEL is higher. This helps with detection and risk management.

Therefore, based on worst case modelling, exposure is expected to very low, and the risk in use is assessed to be minimized.

Air-monitoring results when communicated by specific users indicated that their airborne measurements at their sites were less than the limit of detection (0.005 $mg/m^3$) when measured in their occupational hygiene programs. These results were consistent with the risk modelling, that show that risks are well controlled and risk in use is minimized.

**Risk of substitution of dichromium tris(chromate) for other chromates**

ECHA initially scored the dichromium tris(chromate) as a medium priority for authorisation in its scoring mechanism. However, its priority has been raised due to the perceived risk that dichromium tris(chromate) may be used as a substitute for other chromates that will be included on Annex XIV shortly.

We believe the perceived risk that dichromium tris(chromate) may substitute other chromate substances is overestimated. The solubility profile of the substance, means that it is unlikely to be viable alternative in chromium plating (hard or decorative).

For passivation type uses, the industry is putting significant effort into developing and testing chromium(VI) free technologies. It seems unlikely that companies would place resource or time into testing, evaluating and trying to launch new formulations based on dichromium tris(chromate) containing substances, in place of new chromium(VI) free solutions. If this was the case, then new registrations for other chromate salts containing other cations would be common.

**In summary**

- We do not believe that Dichromium tris(chromate) should be prioritised for early prioritisation, ahead of other higher volume, wider used candidate listed substances.
- If it is prioritised, then any deadlines proposed must allow sufficient time for authorisation dossiers to be developed. In addition, the eventual sunset date selected must allow sufficient time for alternatives to be developed, tested and implemented.

13th September 2012