

C.O.S.H.H DATA

Hot – Dip Galvanized Products

Reviewed September 2012

Introduction:

Hot Dip Galvanizing has been commercially available since the 19th Century, and long experience has confirmed that there are no significant health risks inherent in the handling of work processed by this method.

Indeed the Zinc, which is used to produce the Galvanized coating, is the trace element most essential for good health, and is the mineral in which most people are likely to be deficient.

Steelwork is galvanized in accordance with BS EN ISO 1461, which is the specification for “Hot-Dip Galvanized coatings on Iron and Steel articles”.

However, the following facts should be known: -

1. Storage

A Hot Dip Galvanized product is not a fire or explosion hazard; therefore it may be stored under normal conditions indoors or outdoors.

2. Chemical Reactivity

Zinc in the Galvanized coating will react with acids and alkalis to produce Hydrogen gas, which in poorly ventilated conditions could result in a combustible explosive mixture being formed with air.

3. Health Hazard and Precautions

(a) Inhalation

Zinc melts at 419°C. In the event of being engulfed in a fire so that the zinc does melt and reaches temperatures in excess of 1000°C, or if Hot Dip Galvanized product is flame cut or welded, white Zinc Oxide “fume” will be developed.

If this is inhaled in excessive quantities, metal fume fever can occur. The onset of the fever is usually several hours after exposure and takes the form of symptoms resembling influenza, e.g. chills, aching, nausea, weakness.

Symptoms are usually mild and rarely last longer than a day, but in the event that they are severe and prolonged, medical attention should be sought.

If local ventilation is inadequate to cover the fume, personal respiratory protection may be required to prevent the symptoms described above.

b) Ingestion

Problems due to the ingestion of zinc compounds etc have never been documented, but for normal hygiene reasons it is advisable to wash hands likely to be contaminated with Zinc before eating.

c) Permissible levels of Zinc in Air

There is no listed Workplace Exposure Limit (EH40/2005) for Zinc Oxide. The following WEL's are applicable to Zinc Dust

Inhalable	- 10mg/m ³ , 8hour TWA - 20 mg/m ³ , 15min STEL
Respirable	- 4mg/m ³ , 8hour TWA

d) Cuts and Abrasions

In the event of a cut or abrasion resulting from contact with a Hot-Dip Galvanized surface, normal First Aid involving cleaning will provide adequate protection.