

الآية

قال تعالى:

{ وَسَخَّرَ لَكُمُ الشَّمْسَ وَالْقَمَرَ دَائِبَيْنِ وَسَخَّرَ لَكُمُ اللَّيْلَ وَالنَّهَارَ } {33} أَوْ آتَاكُمْ مِنْ كُلِّ مَا سَأَلْتُمُوهُ وَإِنْ تَعْدُوا نِعْمَتَ اللَّهِ تَحْصُوهَا إِنَّ الْإِنْسَانَ لَظَلُومٌ كَفَّارٌ {34}

صدق الله العظيم
سورة إبراهيم الآيات (33-34)

Dedication

To my parents

Acknowledgement

I would like to thank Allah the most Gracious, the merciful, and also I would like to express my deepest

*thanks and appreciation to my supervisor Dr:
Mohammed Adam Abbo for his patience, encouragement
and scholarly oriented insights.
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through out these years.*

Abstract

The study was carried out to three heavy metals Cadmium , Chromium and Lead of 30 samples of paint (emulsion and enamel) , the colors of paint were : cream , white , yellow and red . The samples were taken from 6 different factories in Sudan: Shirouq, Ayoub, National, Elmohandis,

Nile and Celledur. A pretreatment was carried out to these samples with concentrated hydrochloric acid, and then diluted so as to be analyzed by atomic absorption spectroscopy. Cd , Cr and Pb were found to be present in all tested samples in varying concentration . Results showed that the maximum concentration of lead was 3430 ppm in the yellow enamel paint and the minimum concentration of lead was 0.1 ppm in white emulsion, red enamel. The maximum concentration of cadmium was 0.8 ppm in the white emulsion and the minimum concentration of cadmium was 0.1 ppm in white and yellow enamel. The maximum concentration of chromium was 500 ppm in yellow enamel and the minimum concentration was 0.1 ppm in red enamel.

The study showed that most Sudanese paint factories were far behind international standards in lead .Cadmium and chromium did not exceed the international standards in the absence of Sudanese standard in paints.

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أُجريت الدراسة لثلاث عناصر ث قليلة وهي الكادميوم والكروميوم والرصاص من 30 عينة بوهية (مائية وزيتية) وباختيار أربعة ألوان مختلفة وهي الكريمي والأبيض والأصفر والأحمر من ستة مصانع بوهية في السودان وهي : الشروق ، أيوب ، المهندس ، ناشونال ، النيل وسيليدور .

أُجريت معالجة أولية للعينات بحمض الهيدروكلوريك المركز وخُفِّفَت بغرض تحليلها بجهاز الامتصاص الذري . النتائج أظهرت وجود العناصر الثلاثة (الكادميوم والكروميوم والرصاص) في العينات التي تم تحليلها بتركيز مختلفة . النتائج أظهرت أعلى تركيز للرصاص هو 3430 جزء من المليون في البوهية الزيتية الصفراء وأدنى تركيز له هي 0.1 جزء من المليون في البوهية المائية البيضاء والبوهية الزيتية الحمراء .

أعلى تركيز للكادميوم هي 0.8 جزء من المليون في البوهية البيضاء وأدنى تركيز له هي 0.1 جزء من المليون في البوهية المائية البيضاء والبوهية الزيتية الصفراء .

أعلى تركيز للكروميوم هي 500 جزء من المليون في البوهية الزيتية الصفراء وأدنى تركيز له هو 0.1 جزء من المليون في البوهية الزيتية الحمراء .

الدراسة أظهرت أن كل المصانع السودانية للبوهيات بعيدة عن المواصفات العالمية بالنسبة لعنصر الرصاص أما الكروميوم والكادميوم فلم يتجاوز المواصفات العالمية مع غياب المواصفات السودانية في البوهيات .

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