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**COMMITTEE OF EXPERTS ON THE TRANSPORT OF
DANGEROUS GOODS AND ON THE GLOBALLY
HARMONIZED SYSTEM OF CLASSIFICATION
AND LABELLING OF CHEMICALS**

Sub-Committee of Experts on the
Transport of Dangerous Goods

Twenty-fifth session, 5-14 July 2004
Item 6 of the provisional agenda

LISTING, CLASSIFICATION AND PACKING

Addition of toxic subsidiary risk to chromium trioxide, anhydrous

Transmitted by the expert from United States of America

Background

Chromium trioxide, anhydrous (UN 1463) is used in chromates, wood treating, inks, paints, rubber pigments, catalysts, plating and anodizing applications, and as an oxidizing agent. It is listed in the Model Regulations as a Division 5.1, PG II oxidizer with a corrosive subsidiary risk. The attached UN data sheet indicates that the substance meets criteria for Division 6.1, PG II dermal toxicity (LD50: 57 mg/kg (rabbits)) and Division 6.1, PG III oral toxicity (LD50: 52 mg/kg (rats)). The values for acute dermal toxicity and acute oral toxicity were determined by testing consistent with the provisions of 2.6.2.1 of the Model Regulations. It is proposed that the entry be amended to include a 6.1 subsidiary risk.

Proposal

Amend the entry in the dangerous goods list for UN 1463 by adding "6.1" to column (4) so that the column would read "6.1, 8".

Annex**DATA SHEET TO BE SUBMITTED TO THE UNITED NATIONS
FOR NEW OR AMENDED CLASSIFICATION OF SUBSTANCES**Submitted by . . . **JITU GHANDI**
TOM MAHAFFEYDate **MARCH 6, 2002**

Supply all relevant information including sources of basic classification data. Data should relate to the product in the form to be transported. State test methods. Answer all questions - if necessary state "not known" or "not applicable" - If data is not available in the form requested, provide what is available with details. Delete inappropriate words.

Section 1. SUBSTANCE IDENTITY

- 1.1 Chemical name **CHROMIUM TRIOXIDE, ANHYDROUS**
- 1.2 Chemical formula **CrO₃ (CHROMIUM OXIDE)**
- 1.3 Other names/synonyms **CHROMIC ACID, CHROMIUM (VI) OXIDE, CHROMIC ANHYDRIDE**
- 1.4.1 UN number **1463**
- 1.4.2 CAS number **1333-82-0**
- 1.5 Proposed classification for the Recommendations
- 1.5.1 proper shipping name (3.1.2*) **CHROMIUM TRIOXIDE, ANHYDROUS**
- 1.5.2 class/division **5.1** subsidiary risk(s) **(8) (6.1)**
packing group **II**
- 1.5.3 proposed special provisions, if any
- 1.5.4 proposed packing instruction(s)

Section 2. PHYSICAL PROPERTIES

- 2.1 Melting point or range **197 °C**
- 2.2 Boiling point or range **N/A °C**
- 2.3 Relative density at :
- 2.3.1 15 °C **85-90 LBS/CU FT (TAPPED)**
- 2.3.2 20 °C
- 2.3.3 50 °C
- 2.4 Vapour pressure at :
- 2.4.1 50 °C **NOT APPLICABLE** kPa
- 2.4.2 65 °C kPa

* *This and similar references are to chapters and paragraphs in the Model Regulations on the Transport of Dangerous Goods.*

- 2.5 Viscosity at 20°C** N/A m²/s
- 2.6 Solubility in water at 20 °C 63 g/100 ml
- 2.7 Physical state at 20 °C (2.2.1.1*) solid/liquid/gas**
- 2.8 Appearance at normal transport temperatures, including colour and odour **SOLID DARK RED FLAKES OR POWDER, NO ODOR**
- 2.9 Other relevant physical properties.....

Section 3. FLAMMABILITY

- 3.1 Flammable vapour
- 3.1.1 Flash point (2.3.3*) N/A °C oc/cc
- 3.1.2 Is combustion sustained? (2.3.1.3) yes/no
- 3.2 Autoignition temperature N/A °C
- 3.3 Flammability range (LEL/UEL) N/A %
- 3.4 Is the substance a flammable solid? (2.4.2*)
- 3.4.1 If yes, give details **NOT APPLICABLE**
.....

Section 4. CHEMICAL PROPERTIES

- 4.1 Does the substance require inhibition/stabilization or other treatment such as nitrogen blanket to prevent hazardous reactivity? yes/**no**
If yes, state
- 4.1.1 Inhibitor/stabilizer used.....
- 4.1.2 Alternative method.....
- 4.1.3 Time effective at 55 °C.....
- 4.1.4 Conditions rendering it ineffective
- 4.2 Is the substance an explosive according to paragraph 2.1.1.1? (2.1*) yes/**no**
- 4.2.1 If yes, give details
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- 4.3 Is the substance a desensitized explosive? (2.4.2.4*) yes/**no**
- 4.3.1 If yes, give details
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* This and similar references are to chapters and paragraphs in the Model Regulations on the Transport of Dangerous Goods.

** See definition of "liquid" in 1.2.1 of the Model Regulations on the Transport of Dangerous Goods.

- 4.4 Is the substance a self-reactive substance? (2.4.1*) yes/**no**
If yes, state
4.4.1 exit box of flow chart.....
What is the self-accelerating decomposition temperature (SADT) for a 50 kg package? °C
Is the temperature control required? (2.4.2.3.4*) yes/no
4.4.2 proposed control temperature for a 50 kg package °C
4.4.3 proposed emergency temperature for a 50 kg package..... °C
- 4.5 Is the substance pyrophoric? (2.4.3*) yes/**no**
4.5.1 If yes, give details
.....
.....
- 4.6 Is the substance liable to self-heating? (2.4.3*) yes/**no**
4.6.1 If yes, give details
- 4.7 Is the substance an organic peroxide (2.5.1*) yes/**no**
If yes state
4.7.1 exit box of flow chart.....
What is the self accelerating decomposition temperature (SADT) for a 50 kg package?..... °C
Is temperature control required? (2.5.3.4.1*).....yes/no
4.7.2 proposed control temperature for a 50 kg package °C
4.7.3 proposed emergency temperature for a 50 kg package..... °C
- 4.8 Does the substance in contact with water emit flammable gases? (2.4.4*) yes/**no**
4.8.1 If yes give details
.....
.....
- 4.9 Does the substance have oxidizing properties (2.5.1*).....**yes/no**
4.9.1 If yes, give details **THIS PRODUCT IS A STRONG OXIDIZING AGENT
EVEN IN SOLUTION**.....
.....
- 4.10 Corrosivity (2.8*) to: **METALS**
4.10.1 mild steel..... mm/year at °C
4.10.2 aluminium mm/year at..... °C
4.10.3 other packaging materials
(specify) mm/year at
..... mm/year at

* *This and similar references are to chapters and paragraphs in the Model Regulations on the Transport of Dangerous Goods.*

4.11 Other relevant chemical properties **PRODUCT IS HYGROSCOPIC**
.....**Section 5. HARMFUL BIOLOGICAL EFFECTS**

- 5.1 LD 50, oral (2.6.2.1.1*) **52** mg/kg Animal species **RAT**
- 5.2 LD 50, dermal (2.6.2.1.2*) **57** mg/kg Animal species **RABBIT**
- 5.3 LC 50, inhalation (2.6.2.1.3*) mg/litre Exposure time hours
or ml/m³ Animal species
- 5.4 Saturated vapour concentration at 20 °C (2.6.2.2.4.3*)ml/m³
- 5.5 Skin exposure (2.8*) results Exposure time hours/minutes
Animal species
- 5.6 Other data
- 5.7 Human experience

Section 6. SUPPLEMENTARY INFORMATION

- 6.1 Recommended emergency action
- 6.1.1 Fire (include suitable and unsuitable extinguishing agents)
**USE EXTINGUISHING AGENT APPROPRIATE FOR SURROUNDING FIRE
WEAR SELF-CONTAINED BREATH APPARATUS**
- 6.1.2 Spillage **IF SOLID, PICK UP FOR PROPER DISPOSAL. IF LIQUID,
NEUTRALIZE WITH WEAK BASE AND DISPOSE OF IN ACCORDANCE
WITH APPLICABLE REGULATIONS**
- 6.2 Is it proposed to transport the substance in:
- 6.2.1 Intermediate Bulk Containers (6.5*)? yes/**no**
- 6.2.2 Portable tanks (6.7*)? yes/**no**
- If yes, give details in Sections 7 and/or 8.

Section 7. INTERMEDIATE BULK CONTAINERS (IBCs) (only complete if yes in 6.2.1*)

- 7.1 Proposed type(s) **NOT APPLICABLE**

* This and similar references are to chapters and paragraphs in the Model Regulations on the Transport of Dangerous Goods.

Section 8. MULTIMODAL TANK TRANSPORT (only complete if yes in 6.2.2)

- 8.1 Description of proposed tank (including IMO tank type if known).....
 - 8.2 Minimum test pressure
 - 8.3 Minimum shell thickness
 - 8.4 Details of bottom openings, if any
 - 8.5 Pressure relief arrangements
 - 8.6 Degree of filling
 - 8.7 Unsuitable construction materials
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