

**H. ENVIRONMENTAL IMPACT**

**ENVIRONMENTAL ASSESSMENT**

- 1. **Date:** 30<sup>th</sup> April 1999
- 2. **Name of petitioner:** Holliday Pigments Limited
- 3. **Post Office address:** Morley Street,  
Hull,  
East Yorkshire,  
England.  
HU8 8DN

**4. Description of the proposed action**

Approval is being sought for the listing of Manganse Violet as an indirect food additive for use as a colorant in food packaging materials.

Manganese Violet is commonly used in the colouration of polymers because it is non- migratory and has excellent heat and light stability.

It is approved for use in cosmetics generally under **21 CFR 73.2775**

This action is necessary in order to allow its use in materials intended to come into contact with food.

Manganese Violet is produced by Holliday Pigments at:

Holliday Pigments S.A  
203, Route de Wervicq  
59560, COMINES  
FRANCE

This site is in an industrial area and meets all required environmental standards.

The use of Manganese Violet will be extended to the colouration of utensils, containers and packaging for food products.

The coloured products will be disposed of at the end of their functional life by the normal waste disposal procedures for household and industrial waste.

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**A. IDENTITY**

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**A1 Chemical name.**

Manganese ammonium pyrophosphate

CAS No. 10101-66-3

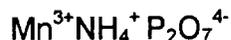
**A2 Common and Trade names.**

Manganese Violet

Mineral Violet

Colour Index - Pigment Violet 16: 77742

**A3 Structural formula**



**A4 Molecular weight**

247

**A5 Composition**

The proposed additive comprises essentially pure manganese ammonium pyrophosphate. Up to 8% kaolin may be added to adjust the tinting strength to the standard value specified.

Certain grades, designed specifically for use in plastics have a maximum of 20% magnesium stearate added. This additive is approved by the FDA for use as an indirect food additive.

*Grades in paper limited to use in electric lights under 1705797*

*144,1440*

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### **A5a Primary Sources**

The following substances are used in the manufacture of manganese violet pigments:

Diammonium hydrogen phosphate  
Manganese salts and oxides  
Phosphoric acid

The specifications for these materials is given in Appendix 1

The manganese oxide or salt is mixed with diammonium hydrogen phosphate and phosphoric acid. The mix is then heated to above 500°F until it turns violet. It is then quenched in water, filtered, washed and dried. The dried product is then pulverised to give pigmentary manganese violet.

### **A5b Secondary Sources**

None.

### **A5c Impurities .**

Water soluble matter            1% max.  
Matter volatile @ 105°C        1% max.

### **A6 Properties .**

Appearance:                        A fine violet powder

Odour:                                Odourless

pH (suspension in water) :    2.5 - 6.5

Decomposition temperature : > 400°C / 750°F

For grades containing magnesium stearate additive some loss of organic material occurs at 250°C / 480°F

Relative density :                2.7 - 2.9

Particle size (mean) :          1.7 -2.3 µm

Solubility :                         Insoluble in water and organic solvents

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**6. Introduction of substances into the environment.**

The current world production of Manganese Violet is about 200 tpa. The annual production by Holliday Pigments is currently 70 tonnes.

It is estimated that this may increase by at most 250 tonnes ie by 350% if this petition is successful. This will not affect compliance with any local or national legislation currently in force.

**7. Fate of emitted substances in the environment ( Not required \*)**

**8. Environmental effects of released substances. ( Not required\*)**

\*Manganese Violet is a functional additive added, at less than 5%, to impart colour to the food packaging and will not be present in concentrations greater than 2%. Maximum concentrations required will normally be of the order of 1%.

**9. Use of resources and energy**

Manganese Violet will add to the range of colorants already approved for use as indirect food additives and as such will not materially change the potential uses of the packaging material to which it is added.

**10. Mitigation measures\***

**11. Alternatives to the proposed action\***

\*Documentation not required for reasons stated under 7&8 above.

**12. List of Preparers.**

Dr. C. Duhayon B.Sc., Ph. D. - Directeur General of Holliday Pigments, S.A. and Technical Director of Holliday Pigments Ltd.

Dr. P.J. Taylor, B.Sc., Ph.D., Technical Consultant, Holliday Pigments Ltd.

**13. Certification.**

The undersigned official certifies that the information presented is true, accurate and complete to the best of the knowledge of Holliday Pigments Ltd. and Holliday Pigments S.A., France.

**Date :** 30<sup>th</sup> April 1999



Technical Consultant, Holliday Pigments Ltd.

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