(5) *Test substance*—(i) *Identity and source.* The remaining components, which may be as high as 25 percent of the test mixture, shall be characterized.

(ii) *Stability under test and storage conditions.* The atmosphere being inhaled by the animals shall be characterized with regard to concentration and identification of the components inhaled.

(f) *Effective date.* The effective date of the final Phase II rule for the C_9 aromatic hydrocarbon fraction is March 9, 1987.

[50 FR 20676, May 17, 1985, as amended at 52 FR 2527, Jan. 23, 1987; 54 FR 27357, June 29, 1989; 58 FR 34205, June 23, 1993]

§ 799.2200 Hydroquinone.

(a) *Identification of test substance.* (1) Hydroquinone (CAS No. 123–31–9) shall be tested in accordance with this section.

(2) Hydroquinone of at least 99 percent purity shall be used as the test substance.

(b) *Persons required to submit study plans, conduct tests and submit data.* (1) All persons who manufacture or process hydroquinone, other than as an impurity, from January 13, 1986 to the end of the reimbursement period shall submit letters of intent to test, exemption applications, and shall conduct tests and submit data as specified in this section, subpart A of this part and part 790 of this chapter for two-phase rulemaking.

(2) Persons subject to this section are not subject to the requirements of § 790.50(a) (2), (5), (6), and (b), and § 790.87(a)(1)(ii) of this chapter.

(3) Persons who notify EPA of their intent of conduct tests in compliance with the requirements of this section must submit plans for those tests no later than 30 days before the initiation of each of those tests.

(4) In addition to the requirements of § 790.87(a)(2) and (3) of this chapter, EPA will conditionally approve exemption applications for this rule if EPA has received a letter of intent to conduct the testing from which exemption is sought and EPA has adopted test standards and schedules in a final Phase II test rule.

(c) *Health effects testing*—(1) *Toxicokinetic studies*—(i) *Required testing.* Skin and oral dosing studies, which will provide data regarding both rate and extent of absorption, shall be conducted with hydroquinone.

(ii) *Test standard.* (A) The toxicokinetic testing shall be conducted in accordance with § 795.235 of this chapter except for the provisions in paragraph (c)(1)(iii)(C) of § 795.235.

(B) For the purpose of this section, the following provisions also apply:

(*1*) During the acclimatization period, rats shall be housed in polycarbonate cages on hardboard chip bedding, or suspended steel cages with no bedding material.

(*2*) [Reserved]

(iii) *Reporting requirements.* (A) The toxicokinetic tests shall be completed and the final results submitted to the Agency within 1 year of the effective date of the Phase II final test rule.

(B) A progress report shall be provided 6 months from the effective date of the final Phase II rule.

(2) *Developmental Toxicity*—(i) *Required testing.* Developmental toxicity studies in both a rodent and nonrodent species shall be conducted with hydroquinone. These tests must be conducted using the oral route of exposure.

(ii) *Test standards.* The developmental toxicity testing shall be conducted in accordance with § 798.4900, as revised July 1, 1987.

(iii) *Reporting requirements.* (A) The Developmental toxicity tests shall be completed and the final results submitted to the Agency within 18 months of the effective date of the final Phase II rule.

(B) Interim progress reports shall be provided at 6-month intervals beginning 6 months from the effective date of the final Phase II rule.

(3) *Reproductive Effects*—(i) *Required testing.* A two-generation reproductive effects study in a rodent species shall be conducted with hydroquinone. This test must be conducted using the oral route of exposure.

(ii) *Test standards.* The reproductive effects testing shall be conducted in accordance with § 798.4700, as revised July 1, 1987.

(iii) *Reporting requirements.* (A) The two-generation reproductive effects toxicity test shall be completed and

nal results submitted to the Agency ithin 29 months of the effective date the final Phase II rule.

(B) Interim progress reports shall be ovided at 6-month intervals begin- ng 6 months from the effective date the final Phase II rule.

(4) *Neurotoxicity*—(i) *Required testing.* he following neurotoxicity testing ıall be conducted for hydroquinone sing oral exposure of a rodent species:

(A) A functional observational bat- ery.

(B) A neuropathology test.

(ii) *Test standards.* (A) The neurotoxi- ty testing of hydroquinone, consist- ıg of a functional observational bat- ery and neuropathology, shall be con- ıcted in accordance with §§798.6050 nd 798.6400, respectively, of this chap- er, except for the provisions of para- raphs (d)(8) (ii) (C) and (D), (iv) (A), nd (E)(2) of §798.6400. The functional- bservational battery and the europathology assessment may be onducted sequentially on the same roup of rats. Neuropathological as- essment should begin with the highest ose level and work downward until a o-observable-adverse-effects dose is eached.

(B) For the purpose of §798.6400, the llowing provisions also apply:

(*1*) *Removal of brain and cord.* After erfusion, the bony structure (cranium nd vertebral column) should be ex- osed. Animals should then be stored ı fixative-filled bags at 4 °C for 8–12 ours. The cranium and vertebral col- mn shall be removed carefully by rained technicians without physical amage of the brain and cord. Detailed issection procedures may be found in he text by Palay and Chan-Palay 1974) under paragraph (f)(4) of this sec- ion. After removal, simple measure- ıent of the weight of the whole brain erebrum, cerebellum, pons-medulla) hould be made. Any abnormal color- tion or discoloration of the brain and ord should also be noted and recorded.

(*2*) *Sampling.* Unless a given test rule pecifies otherwise, cross-sections of he following areas shall be examined: 'he forebrain, the center of the cere- rum, the midbrain, the cerebellum nd pons, and the medulla oblongata; he spinal cord at cervical and lumbar welling (C3–C6 and L1–L4); dorsal root ganglia (C3–C6 and L1–L4), dorsal and ventral root fibers (C3–C6 and L1–L4), sciatic nerve (mid-thigh) and tibial nerve (at knee). The aforementioned areas will be examined with special stains (a combined Luxol Fast Blue Stain-Bodian Silver Protargol impregnation).

(*3*) *Histopathology examination.* Tissue specimens stored in 10 percent buffered formalin may be used for this purpose. All tissues must be immersion-fixed in fixative for at least 48 hours prior to further tissue processing. Alternative fixation procedures may be employed. Tissues for plastic embedment may be fixed for an additional period of at least 2 hours in glutaraldehyde. Tissues from perfused animals not destined for plastic embedment and all tissues from unperfused animals may be fixed in 10 percent neutral buffered formalin.

(*4*) *Special stains.* Regardless of the results of the general staining, selected sites and cellular components shall be further evaluated by the use of certain special stains (a combined Luxol Fast Blue Stain-Bodian Silver Protargol impregnation) and plastic embedded 1 micron sections. These stains and sections shall be used to detect chemical-induced damage to neuronal body, axon, myelin sheath and neurofibrils. A section of normal tissue shall be included in each staining to assure that adequate staining has occurred. Any changes shall be noted and representative photographs shall be taken. If a lesion(s) is observed, the special techniques shall be repeated in the next lower treatment group until no further lesion is detectable.

(iii) *Reporting requirements.* (A) The neurotoxicity tests shall be completed and final results submitted to EPA within 16 months of the effective date of the final Phase II rule.

(B) Interim progress reports shall be provided 6 months from the effective date of the final Phase II rule.

(d) *Effective date.* The effective date of the final Phase II rule for hydroquinone is July 13, 1987.

[50 FR 53156, Dec. 30, 1985, as amended at 52 FR 19870, May 28, 1987; 54 FR 27358, June 29, 1989; 58 FR 34205, June 23, 1993]