

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

INTEROFFICE COMMUNICATION

January 25, 1993

TO: Petroleum hydrocarbon files

FROM: Gary Butterfield

SUBJECT: CAS numbers which can use the ITSL based on the NIOSH refined petroleum products REL

A search for review documents on petroleum hydrocarbons located the 1977 NIOSH document for an REL of 350 mg/m³ for refined petroleum solvents. This document establishes an REL for various refined fractions and describes those fractions (petroleum ether, rubber solvent, VM & P naphtha, mineral spirits, and stoddard solvent) as having hydrocarbon chain lengths C5 to C12, a boiling point between 30 and 210 degrees Celsius, and being composed of less than 20 percent aromatic hydrocarbons. The chemical names and descriptions from the EPA ToSCA inventory and CAS-on-line were consulted to determine which CAS numbers might be covered by these three criteria, and could therefore, have an ITSL of 3500 µg/m³ (eight hour averaging time) established, as based on one percent of the NIOSH REL.

<u>CAS No.</u>	<u>ToSCA Chemical name</u>
8030-30-6	naphtha
8032-32-4	ligroine
8052-41-3	stoddard solvent
64742-48-9	naphtha (petroleum) hydrotreated heavy
64742-88-7	solvent naphtha (petroleum) medium aliphatic
64742-89-8	solvent naphtha (petroleum) light aliphatic

In addition to the above fractions, CAS # 1 64741-41-9 and ToSCA chemical name: naphtha (petroleum) heavy straight-run may also have the ITSL of 3500 µg/m³, with eight hour averaging, applied to it if it can be verified that the fraction contains less than 20 % aromatics. If the above materials are present in any combination, the ITSL applies to the total concentration of all those materials present — combined. As these petroleum hydrocarbon materials can be expected to impact the same organ systems because of their similarity, an additive effect is expected. Attached are printouts from CAS-on-line which contain CAS name, definition, and synonyms for each of the above petroleum fractions.

References:

- ACGIH. 1992. Threshold limit values for chemical substances and physical agents and biological exposure indices.
- EPA. 1979. ToSCA Inventory Appendix A.
- NIOSH. 1977. Criteria for a recommended standard ... occupational exposure to refined petroleum solvents. NIOSH 77-192.

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MICHIGAN DEPARTMENT OF NATURAL RESOURCES

INTEROFFICE COMMUNICATION

December 10, 1992

TO: VM & P Naphtha file (CAS# 8032-32-4)

FROM: Gary Butterfield

SUBJECT: ITSL for Naphtha

The ITSL for VM & P naphtha is based on 1% of NIOSH's REL of 350 mg/m³. This REL applies to petroleum ether, rubber solvent, VM & P naphtha, mineral spirits and Stoddard solvent which are covered by CAS numbers 8030-30-6, 8032-32-4, and 8053-41-2. The ACGIH TLV of 1350 mg/m³ for VM & P naphtha is less conservative than NIOSH REL. The REL is based on numerous reports of adverse effects observed in workers exposed to solvents.