ticularly if applied often or in large quantities

Continued absorption of iodine has an effect on the mucous membranes distinct from its local action on the skin It produces irritation and inflammation of skin and mucous membrane tissue and seems to excite minor infection into renewed activity

See Industrial Data Sheet 457.

Iron oxide fume was observed some years ago to cause a mottling in the lung X-rays of welders similar to that of silicosis The most important differences between the effects of iron oxide and silica are that the presence of iron pigmentation or siderosis does not increase the tendency of the lung to develop tuberculosis and the welders with this condition do not seem to have any disability as a result of it It occurs in hematite miners and in welders who work in confined spaces without enough ventilation.

Most authorities feel that the concentration of iron in the air should be kept below the point at which it collects in the lung

See *Hygienic Guide.*

Lead was one of the first industrial materials to be recognized as a serious health hazard, and it still accounts for more cases of disability than any other single air contaminant. In industrial work, lead enters the system mainly in the form of dust by inhalation.

Lead compounds can produce poisoning when they are swallowed, but absorption from the digestive system is slow and inefficient, so that large doses of most lead compounds are required and poisoning develops slowly In the respiratory system, on the other hand, most lead compounds are absorbed rapidly and completely so that poisoning will develop from much lower doses It is not even necessary that the compound penetrate deeply into the respiratory system. It has been demonstrated experimentally that lead compounds are absorbed rapidly and completely from the nasal passages when they have no chance to go either into the digestive system or deeper into the respiratory system.

Prevention of lead poisoning is almost entirely a matter of good housekeeping and dust control. To prevent ingestion food or drinks should not be taken into workrooms where lead compounds are handled

The metal is essentially harmless. Although it can be vaporized at high temperatures, such temperatures are not usually attained in casting, soldering, or heat treating baths

Casting and soldering pots should have local exhaust hoods to get rid of lead vapor or lead compounds which may be carried off with volatile fluxes It is at least equally important that the surface of the lead be kept free from dross and that the dross container be enclosed under the same hood so that dross can be removed from the pot and the container covered and removed, all under exhaust.

Likewise, on large soldering jobs the soldering operation should be locally exhausted, primarily to prevent nose and throat irritation from acid fluxes More importantly, the furnaces used for heating the soldering irons should be exhausted because in these furnaces considerable lead is invariably oxidized.

Assembly of battery plates and burning on of the connectors should be done on grille-top tables with down-draft ventilation This installation plus regular air sampling to ensure control of contamination and physical examinations to keep track of lead absorption by employees, can eliminate lead poisoning from battery plants

The poisoning produced by inhalation of solid inorganic lead compounds commonly causes symptoms of lead colic and lead anemia. Stipple cells or other readily stained cells in the circulating blood are good indicators of lead absorption, although not so good as the direct measurement of lead content of the blood or urine. Urinalyses for lead can now be run routinely and cheaply and with sufficient accuracy by polarographic or spectrographic methods

Lead tetraethyl and other lead alkyls are likely to be much more rapidly progressive as poisons than the nonvolatile compounds and are much more likely to attack the nervous system than to produce gastrointestinal symptoms. These effects are probably typical of the volatile lead compounds, none of which is common in industry

See Industrial Data Sheet 443 and *Hygienic Guide.*

Lethanes—see **Thiocyanates (aliphatic).**

Lindane—see **Hexachlorocyclohexane.**