

Methanol Poisoning

(aspartame is broken down in Methanol and formaldehyde) is this were you are looking for to proof Gulf War Syndrome? Tons of cola light were cooking in temps of 40° C. - 60° C. and more, for weeks and months. See what aspartame does. In fact you have already this, ain't it? Good Luck!)

Main toxic effects:

Acute:

Irritation to the eyes, CNS depression, systemic damage to the eyes

Chronic:

Neurological symptoms, irritation to the nasal mucous membranes through exposure to higher vapor concentrations, damage to the skin due to repeated contact[07619]

Acute toxicity:

The irritating potential of gaseous and also liquid M. to the mucous membranes and skin is not very pronounced. The effects to the skin seem to be attributable mainly to the degreasing action.[07619] Contact of undiluted M. with rabbits' eyes led to slight through to moderate irritation. Under experimental conditions, it produced distinct conjunctivitis with initial edema in the tissue (chemosis). Direct local damage to the eyes was scarcely demonstrable.[00083]

Irritation tests on rabbits' skin mostly provided negative results. Likewise, no sensitizing action was detectable for guinea pigs.[00220]

However, the dermal toxicity is not negligible. The use of M. for cleansing the skin or accidental extensive contact has repeatedly produced serious poisoning with sometimes irreversible damage to the eyes.

12 of 21 children whose gastrointestinal complaints were treated with compresses containing M. died of cardiac and respiratory arrest.[07619]

Even high vapor concentrations apparently produce only minor irritation to the airways. In an early study on volunteers, 7600 ppm for 5 minutes led to only weak, however, 65400 ppm to very severe irritation to the nasal mucous membranes.

Reports on serious inhalative poisoning are rare, data concerning the exposure concentrations in this connection are insufficient. Exposures of rats and mice to concentrations at the level of > 50000 ppm for about 4 hours resulted in general anesthesia, coma and death in some cases. However, no details were referred.[99997]

Poisoning cases with M. following ingestion have occurred most frequently. The following poisoning scenario is typical: temporary CNS depression (similar that due to ethanol but less pronounced), asymptomatic latency period (for some hours through to several days, mostly lasting for 8 - 24 h), uncompensated acidosis with extremely pronounced toxicity to the optic nerve, accompanied by headache, vertigo, nausea, vomiting; in serious cases followed by abdominal and muscular pain as well as Kussmaul breathing and possible progression to coma and death (mostly due to respiratory arrest). The blindness can persist if metabolic acidosis has already led to manifest damage.[00083]

There is a considerable variability concerning data on the latency period and the size of the dose which is lethal for humans. About 1400 mg/kg bw were lethal in almost half of the poisoning cases. [07619]

Chronic toxicity:

Following long-term exposure in the workplace to about 1000 ppm on average blurring of vision and/or headache were reported in particular.[07619]

Some authors assume that the visual disturbances could possibly be not a systemic effect but a physical phenomenon, namely the development of mist due to condensation of moisture on the aerosol particles of M. They substantiate this statement with the occurrence of high peak

concentrations. The hypothesis is confirmed by the fact that the employees would already suffer from headache sooner (at lesser concentrations) than from visual disturbances.[99997]

The problem is not finally explained. However, it seems that for humans repeatedly exposed to moderate concentrations, **neurotoxic effects** are predominant.[99999]

In a chronic inhalative study on monkeys exposed to up to 1000 ppm M. for up to 29 months (21 h/d each time), slight irritation (rhinorrhoea and apparently pruritus) as well as abnormal posture for long time periods were found from 100 ppm upwards. No further health disturbances or persistent peculiarities which would have been objectifiable histologically were detectable. Higher concentrations (10000 and also 5000 ppm for 21 h/d) led to death after a latency period as a consequence of accumulation of formic acid formed metabolically. In these cases, but not following exposure to 5000 ppm for only 6 h/d, distinct changes to the tissues of CNS, liver and kidneys were detectable.

Inhalative exposure of rats to up to 10000 ppm (maximally 6 h/d for 6 weeks) produced contradictory results concerning the irritation (rhinorrhoea) but not damage to tissues detectable histologically.[99997]

In order to confirm the threshold limit values valid to date, further studies on persons exposed are considered to be necessary because a risk assessment for methanol based only on animal experiments seems to be complicated.[99999]

Reproductive toxicity, Mutagenicity, Carcinogenicity:

For classifying the reproductive toxicity and mutagenic and carcinogenic potential see list in Annex VI of the CLP regulation or TRGS 905 or List of MAK values.

(see section REGULATIONS).

Reproductive toxicity:

There is no reason to fear a risk of damage to the developing embryo or foetus when MAK and BAT values are observed.

[07908]

No confirmable data is available on the reproductive-toxic potential for humans.

In reproductive-toxicological studies, highly-exposed rats showed fetal malformations and behavioral disturbances for newborn animals. However, because of maternal toxicity simultaneously shown, it was concluded that M. does not act as a reproductive toxicant at low concentration levels.

Mutagenicity:

In the in-vitro tests and in-vivo tests carried out, no genotoxic potential was detectable.[07619]

Carcinogenicity:

The carcinogenicity studies on rats and mice which were carried out to date do not provide indications of a carcinogenic potential of M.[99997]

Because of the insufficient documentation of these studies, final assessment cannot yet be made. [07619]

Biotransformation and Excretion:

Primates mainly oxidize M. to form **formaldehyde** with the catalytic cooperation of alcohol dehydrogenase. In the presence of reduced glutathione and assisted by tetra-hydrofolic acid it is further oxidized to form formiate.

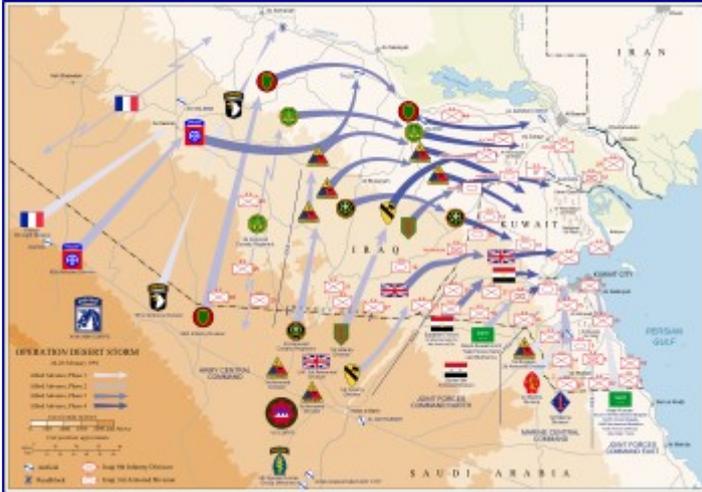
Again via a derivative of tetrahydrofolic acid, further oxidation proceeds to form CO₂. The last step is saturable so that accumulation of formiate in the blood is possible.

This results in metabolic acidosis. Based on various mechanisms of biotransformation, rodents do not accumulate formiate so that toxic actions to primates and rodents are scarcely comparable.

[07619]

Gulf war syndrome

Signs and symptoms



Summary of the [Operation Desert Storm](#) offensive ground campaign, February 24–28, 1991, by nationality.

According to an April 2010 U.S. Department of Veterans Affairs (VA) sponsored study conducted by the Institute of Medicine (IOM), part of the U.S. [National Academy of Sciences](#), 250,000[5] of the 696,842 U.S. servicemen and women in the 1991 Gulf War continue to suffer from chronic multi-symptom illness, popularly known as "Gulf War Illness" or "Gulf War Syndrome." The IOM found that the chronic multi-symptom illness continues to affect these veterans nearly 20 years after the war.

According to the IOM, "It is clear that a significant portion of the soldiers deployed to the Gulf War have experienced troubling constellations of symptoms that are difficult to categorize," said committee chair Stephen L. Hauser, professor and chair, department of neurology, [University of California, San Francisco](#) (UCSF). "Unfortunately, symptoms that cannot be easily quantified are sometimes incorrectly dismissed as insignificant and receive inadequate attention and funding by the medical and scientific establishment. Veterans who continue to suffer from these symptoms deserve the very best that modern science and medicine can offer to speed the development of effective treatments, cures, and—we hope—prevention. Our report suggests a path forward to accomplish this goal, and we believe that through a concerted national effort and rigorous scientific input, answers can be found." [5]

Questions still exist regarding why certain veterans showed, and still show, medically unexplained symptoms while others did not, why symptoms are diverse in some and specific in others, and why combat exposure is not consistently linked to having or not having symptoms. The lack of data on veterans' pre-deployment and immediate post-deployment health status and lack of measurement and monitoring of the various substances to which veterans may have been exposed make it difficult—and in many cases impossible—to reconstruct what happened to service members during

their deployments nearly 20 years after the fact, the committee noted.^[5] The report called for a substantial commitment to improve identification and treatment of multisymptom illness in Gulf War veterans focussing on continued monitoring of Gulf War veterans, improved medical care, examination of genetic differences between symptomatic and asymptomatic groups and studies of environment-gene interactions.^[5]

A variety of signs and symptoms have been associated with GWS:

| Excess prevalence of general symptoms ^[12] * | | U.S. |
|---|-----|------|
| Symptom | | |
| Fatigue | 23% | |
| Headache | 17% | |
| Memory problems | 32% | |
| Muscle/joint pain | 18% | |
| Diarrhea | 16% | |
| Dyspepsia/indigestion | 12% | |
| Neurological problems | 16% | |
| Terminal tumors | 33% | |

| Excess prevalence of recognized medical conditions ^[13] | | U.S. |
|--|--------|------|
| Condition | | |
| Skin conditions | 20–21% | |
| Arthritis/joint problems | 6–11% | |
| Gastro-intestinal (GI) problems | 15% | |
| Respiratory problem | 4–7% | |
| Chronic fatigue syndrome | 1–4% | |
| Post-traumatic stress disorder | 2–6% | |
| Chronic multi-symptom illness | 13–25% | |

Birth defects have been suggested as a consequence of Gulf War deployment. However, a 2006 review of several studies of international coalition veterans' children found no strong or consistent evidence of an increase in birth defects, finding a modest increase in birth rate defects that was within the range of the general population, in addition to being unable to exclude [recall bias](#) as an explanation for the results.^[14] A 2008 report stated that "it is difficult to draw firm conclusions related to birth defects and pregnancy outcomes in Gulf War veterans", observing that while there have been "significant, but modest, excess rates of birth defects in children of Gulf War veterans", the "overall rates are still within the normal range found in the general population".^[15] The same report called for more research on the issue.

I am just an anthropologist, trying to help you.

Etienne.