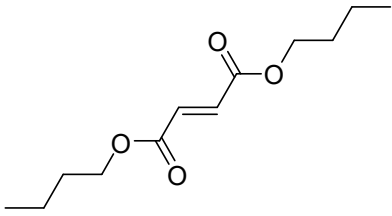


皮膚障害物質データシート

Dibutyl fumarate(DBF)

化学構造式 (Structure)	
化学物質名 (Generic Name)	Dibutyl fumarate(DBF) ジ(ブチル)フマレート
元素組成、分子量 (Molecular Formula, Molecular Weight)	C ₁₂ H ₂₀ O ₄ = 228.29
NITE-CHRIP ID	C006-131-43A
用途 (Use, Activity)	可塑剤

化合物情報、皮膚障害情報

Dibutyl fumarate(DBF)は、プラスチックに用いられる可塑剤である。Dibutyl maleate(DBM)と DBF は、光変換(cis-trans)する関係である (図-1)。

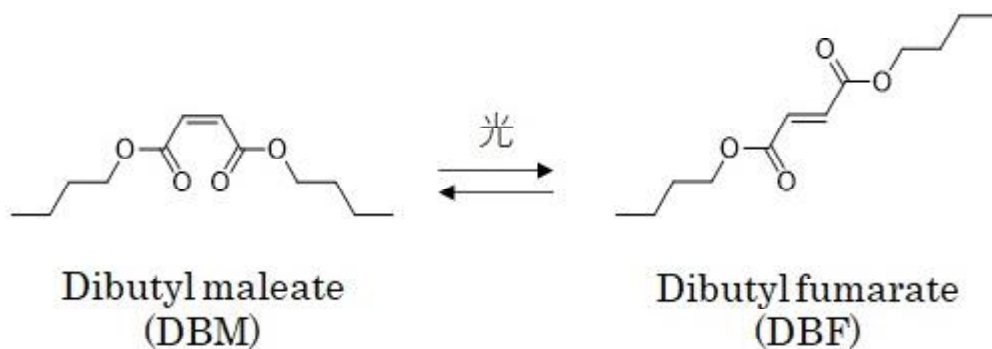


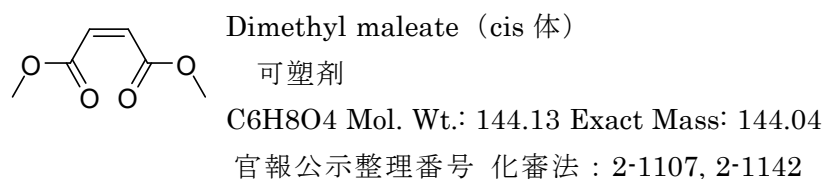
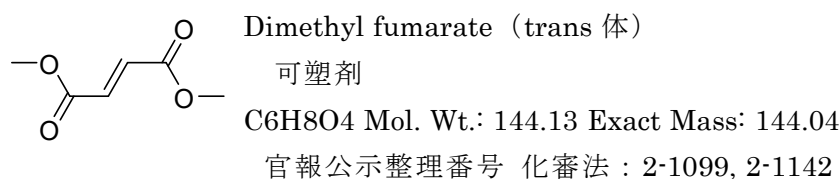
図-1 Dibutyl maleate(DBM)と Dibutyl fumarate(DBF)の光変換(cis-trans)

DBF と DBM は、靴によるアレルギー接触皮膚炎の事例が報告がある(1)。DBF 及び DBM は、感作性があるとの報告がある(2)。DBM も、過去にアレルギー接触皮膚炎や感作性の報告がある。(1,3-5)、

2021 年、サンダルによるアレルギー性接触皮膚炎が発生し、NITE に事故情報が報告された。事故原因究明テストの結果、DBM 及び DBF がサンダルの皮膚接触面の樹脂から検出され、パッチテストで陽性反応 (DBM 5%pet ++、DBF 5%pet ++) を示したことからアレルギー性接触皮膚炎の原因物質として確認された。

DBF 及び DBM と類似の化学構造を有する化学物質においても、アレルギー性接触皮膚炎の事例が報告されている。

フマル酸及びマレイン酸のメチルエステルである Dimethyl fumarate (DMF) 及び Dimethyl maleate (DMM) は、特に欧州でアレルギー性接触皮膚炎が多発(6-32)した。



図－2 Dimethyl fumarate 及び Dimethyl maleate の化学構造

DMF は、可塑剤のほか、防腐剤やかび防止剤として、皮革、履物、家具、繊維製品、車のシート、食品、食糧、飼料、化粧品、煙草等にも用いられていた。

DMF については、欧州委員会が 2009 年 5 月 1 日より、委員会決定「2009/251/EC」により、規制を開始しており、DMF を含むあらゆる製品の欧州市場への投入・販売を禁止している(33)。

NITE 事故情報 (NITE-Accident information)

2021-2846 靴 (サンダル)

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