

UNITED STATES PATENT OFFICE

2,546,791

MASKING THE ODOR OF AMMONIA IN
DEVELOPING DIAZOTYPES

Sam Charles Slifkin, Binghamton, and John
Sulich, Jr., Endicott, N. Y., assignors to Gen-
eral Aniline & Film Corporation, New York,
N. Y., a corporation of Delaware

No Drawing. Application December 16, 1948,
Serial No. 65,729

2 Claims. (Cl. 95—88)

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This invention relates to a process for mask-
ing the odor of ammonia and to the resulting
composition.

Aqueous solutions of ammonia are employed
for many purposes which require the volatiliza-
tion of the dissolved ammonia from the solution.
The volatilized ammonia can be confined with-
in a given space only by means of gas tight seams
and connections in the apparatus used. It is
often impractical to do this and in such cases
the ammonia gas will escape into the surround-
ing atmosphere creating an intolerable situa-
tion because of the characteristically unpleasant
pungent odor of the ammonia.

A particular case where this problem is of
considerable concern is the process of dry develop-
ing diazotype light sensitive material. Exposed
dry developable diazotype materials are usually
developed by drawing them across the perforated
surface of a tank in which ammonia is being
vaporized by means of an endless belt travelling
around rollers on either side of the perforated
surface. Since the diazotype material to be
developed must have ready entrance to and exit
from the developing surface, it is difficult to seal
off the escape of the ammonia. Furthermore,
the diazotype material itself will absorb and car-
ry out a certain amount of occluded gas.

In order to counteract the offensive odor of the
ammonia vapors emitted to the atmosphere in the
above described diazotype developing process and
similar processes, it is proposed by this invention
to add an ingredient to the aqueous ammonia
solution which will mask the odor of the am-
monia volatilized therefrom. The ingredient
which is added is an aromatic volatile material
which will volatilize with the ammonia. It
should be readily dispersible, but not hydroliza-
ble in aqueous ammonia solution. It should be
sufficiently volatile to remain vaporized with the
ammonia and not condense upon the cooler por-
tions of the equipment with which it is used so
that smearing of the prints during development
may be avoided. It should not have a sweet or
objectionable odor but a pleasant odor suffi-
ciently strong to mask the odor of the ammonia. In
the process of developing diazotype reproductions
by the ammonia or dry method a small concen-
tration of the volatile ingredient should be left
on the diazotype print by occlusion of the vapor
in the pores of the diazotype support material
such as paper. Thus a residual pleasant odor
will be maintained on the diazotype prints over-
riding the characteristic ammonia odor which
would otherwise predominate.

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We have found that a solution in isopropyl al-
cohol of an essential oil such as petitgrain oil
which, preferably, is free of terpenes has the
properties necessary to perform the ammonia
odor masking function. Such a solution of
petitgrain oil is readily dissolved or dispersed in
aqueous solutions of ammonia. The petitgrain
oil does not hydrolize in the aqueous ammonia.
It vaporizes with the ammonia upon application
of heat or release of pressure in an evaporating
chamber and its pleasant odor dominates and
obscures the characteristic unpleasant odor of
the ammonia. It does not condense out of the
vapor mixture upon contact with cool portions
of the equipment in which it is being evaporated
such as a diazotype ammonia developer. The
petitgrain oil also has the same property as am-
monia of becoming occluded, in the vapor stage,
to the surface of paper or other like medium used
as a support for diazotypes. It accordingly im-
parts a residual pleasant odor to ammonia devel-
oped diazotype prints which obscures any residual
odor attributable to the ammonia.

As an example of a suitable concentration of
the volatile aromatic oil for masking the odor
of ammonia we suggest the addition of 30 cc. of a
10% solution of petitgrain oil free of terpenes
in isopropyl alcohol to one gallon of aqueous am-
monia (28% NH_4OH). That is approximate-
ly one part of the 10% petitgrain oil/isopropyl
alcohol solution in 126 parts by volume of the 28%
aqueous ammonia solution. Coloring matter
such as a spirit soluble aniline dye of high tinc-
torial strength may be added for identification
purposes.

The solution of the petitgrain oil or other es-
sential oil may be prepared and stored or dis-
tributed in a form ready for use in the aqueous
ammonia by dissolving the essential oil in the
solvent, such as isopropyl alcohol to the desired
strength. A 10% solution of the essential oil
in the solvent is generally adequate. If desired
a small amount of the spirit soluble aniline dye
may also be added in order to give the essential
oil solution a distinctive color facilitating its
identification.

What we claim is:

1. The process of developing diazotypes by
means of odor masked ammonia vapors which
comprises contacting the diazotype material with
the vapors from an aqueous ammonia solu-
tion of petitgrain oil dissolved in isopropyl al-
cohol.

2. The process of developing diazotypes by
means of odor masked ammonia vapors which

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comprises contacting the diazotype material with the vapors from an aqueous ammonia solution of petitgrain oil, free of turpines, dissolved in isopropyl alcohol.

SAM CHARLES SLIFKIN.
JOHN SULICH, JR.

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