CLAIMS:

1. A photomask blank comprising a transparent substrate, at least one film (A) containing chromium and nitrogen, and free of silicon, and at least one film (B) containing silicon and oxygen, and free of a transition metal, the film (A) and film (B) being contacted to each other, wherein

when an intension of secondary ions is measured along a thickness direction of the films by a time-of-flight secondary ion mass spectrometry (TOF-SIMS), an intension of secondary ions derived from Cr_2O_5 is lower than an intension of secondary ions derived from SiN, at a position located at the interface or its vicinity of the film (A) and film (B) and having a maximum intensity of secondary ions derived from $SiCrO_5$.

2. The photomask blank of claim 1 wherein the film (A) contains oxygen.

3. The photomask blank of claim 1 wherein the film (A) is composed of a compositionally graded layer having a composition continuously graded in thickness direction, or multiple layers, and a concentration of chromium at the interface of the film (A) and film (B) is lower than a concentration of chromium in the film (A) of remote from the interface.

4. The photomask blank of claim 3 wherein an atomic ratio Cr/E of chromium (Cr) to E representing an element other than chromium at the interface of the film (A) and film (B) is up to 4.

5. The photomask blank of claim 1 wherein said at least one film (A) comprises a light-shielding film.

6. The photomask blank of claim 1 wherein the film (B) comprises a SiO film.

7. The photomask blank of claim 1 wherein the film (B) is composed of a single layer having a uniform composition in thickness direction, a compositionally

graded layer having a composition continuously graded in thickness direction, or multiple layers, and a concentration of oxygen at the interface of the film (A) and film (B) is lower than a concentration of oxygen in the film (B) of remote from the interface.

8. The photomask blank of claim 1 wherein said at least one film (B) comprises a hard mask film.

9. The photomask blank of claim 8 wherein the film (B) is thinner than the film (A).

10. The photomask blank of claim 1 wherein a film (C) composed of a film containing a transition metal and silicon or a film containing silicon and free of both of a transition metal and oxygen is formed between the transparent substrate and the films (A) and (B).