

Namelist "Species_Initialization"

This data setup is used to define the initial field of species mass fraction over the domain.

Full data set of the namelist

Example for a gas mixture with two species

```
&Species_Initialization    Initial_Field_Option_For_Species= 0  1,  
                          Species_Reference_Value      = 1  /
```

Definition of the data set

Species_Reference_Value

- Type : allocatable array of real values. The size of the array is automatically defined in respect with the number of species considered.
- Reference mass fraction of species.
- Default values set by the user. The order of data must match with the order in which the species properties (see the namelist "[Species_Properties](#)") are written in the data file.



Be careful. The user must ensure the coherence between the reference values of physical quantities defined in the namelist "[Fluid_Properties](#)" (temperature, density and molecular mass), the initial temperature field over the domain (see the namelist "[Temperature_Initialization](#)") and the species mass fractions defined here.

Keep in mind that the reference value of thermodynamic pressure is calculated from the ones of temperature, density and molecular mass (see namelist "[Fluid_Properties](#)"). The density field is then initialized from the fields of temperature and species mass fractions by considering that the thermodynamic pressure is uniform over the domain (low Mach-number hypothesis).

Initial_Field_Option_For_species

- Type : integer value
- Option to define the distribution of the species mass fraction over the domain :
 - 0 : Uniform distribution
 - 1 or greater : Optional values associated to the field of species mass fraction defined by the user in the appropriate fortran module (see module `user_define_init_fields.f90`). The reference value can be used to define the species mass fraction scale.
 - Default value= 0

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