

k_rateConst

The k_rateConst scheme calculates the k rate constants at the beginning of each model's time-step. They are not computed for the internal steps of the box model time-step advancer.

Source code location: *MICM_Chemistry/src/kinetics/k_rateConst.F90*

User defined types

kinetics_type

```
type kinetics_type
  private
  integer :: nReact
  real(r8), allocatable :: rateConst(:)
contains
  private
  procedure, public :: rateConst_init
  procedure, public :: rateConst_update
  procedure, public :: rateConst_print
  procedure, public :: force
  procedure, public :: jac
  final          :: DasEnder
end type kinetics_type
```

Metadata for kinetics routines

kinetics_init routine

!> \section arg_table_kinetics_init Argument Table

!!	local_name	standard_name		kind	intent	optional		long_name
units	rank	type						
!!	----- ----- ----- ----- ----- ----- ----- -----							
!!	nTotRxt	num_chemical_reactions						total number of chemical reactions
count	0	integer			in	F		
!!	theKinetics	kinetics_data						chemistry kinetics
DDT	0	kinetics_type			none	F		
!!	errmsg	ccpp_error_message						CCPP error message
none	0	character	len=512		out	F		
!!	errflg	ccpp_error_flag						CCPP error flag
flag	0	integer			out	F		
!!								

kinetics_run routine

!> \section arg_table_kinetics_run Argument Table

!!	local_name	standard_name		kind	intent	optional		long_name
units	rank	type						

```

!! |-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|
!! | theKinetics | kinetics_data | chemistry kinetics |
DDT | 0 | kinetics_type | none | F |
!! | k_rateConst | gasphase_rate_constants | gas phase rates constants | s-
1 | 1 | real | kind_phys | in | F |
!! | j_rateConst | photo_rate_constants | photochemical rates constants | s-
1 | 1 | real | kind_phys | in | F |
!! | errmsg | ccpp_error_message | CCPP error message |
none | 0 | character | len=512 | out | F |
!! | errflg | ccpp_error_flag | CCPP error flag |
flag | 0 | integer | out | F |
!!

```

kinetics_finalize routine

!> \section arg_table_kinetics_finalize Argument Table

```

!! | local_name | standard_name | long_name |
units | rank | type | kind | intent | optional |
!! |-----|-----|-----|-----|-----|-----|
|-----|-----|-----|-----|-----|-----|
!! | errmsg | ccpp_error_message | CCPP error message |
none | 0 | character | len=512 | out | F |
!! | errflg | ccpp_error_flag | CCPP error flag |
flag | 0 | integer | out | F |
!!

```