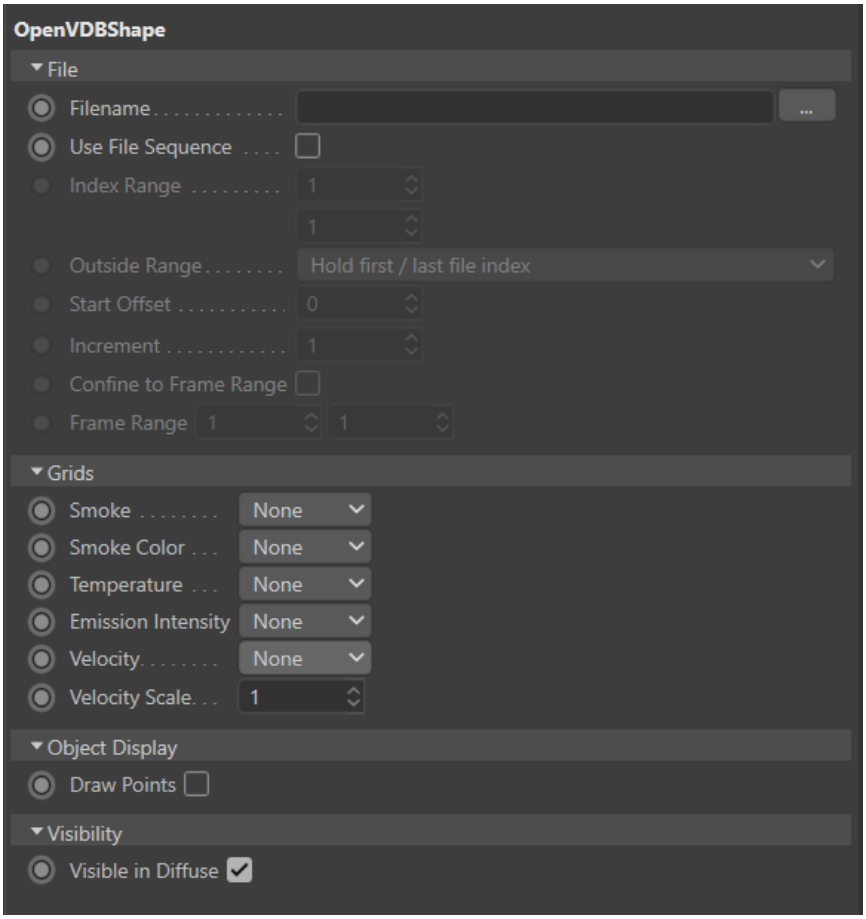
Open VDB

Using Open VDB assets with *3Delight for Cinema4D* involve using a *Cinema4D* shape and a shader. The *3Delight Open VDB* shape allows specifying what VDB file will be used and positions the VDB volume in the scene. The shading attributes are specified in an assigned volumetric shader, such as the *3 Delight Open VDB Shader*.



Specifying an Open VDB file

Use the *browse* button to select a VDB file. If the file is part of a sequence, *3Delight for Cinema4D* will detect it and configure the *Use File Sequence* and *In dex Range* options accordingly. Alternately, type in the *Filename* text field to specify the Open VDB file to use. Using the text field allows specifying expressions in place of a sequence file number, such as `<f>`.

It is also possible to drive the *Filename* attribute value with another node or expression connected upstream; in that case the *File Sequence* options, if needed, must be set manually.

Once a VDB file has been set, *3Delight for Cinema4D* will automatically attempt to select proper *Smoke, Temperature, Emission Intensity* and *Velocity* grid s. The *Velocity Scale* attribute will be used as a multiplier over the *Velocity* grid values.

Using an Open VDB File Sequence

Enabling *Use File Sequence* will define a sequence of file indices used to replace the number expression in the VDB filename. This allows using a VDB file sequence numbered independently from the scene's current time. The *Index Range* specifies the first and last indices for the VDB file sequence that will be used. *Increment* specifies the increment to use when going from one index to the next in the file sequence.

To restrict VDB file sequence usage to a specific scene frame range, turn on *Confine to Frame Range*. While the current time is outside of the specified frame range, the first or last VDB file index will be held. This allows, for instance, to start using VDB files numbered from 1 to 100 only when the scene's current time reaches frame 800.

The VDB file sequence can be played in loop by setting *Outside Range* to *Repeat Sequence*. When this is selected, the *Start Offset* can be used to start the repeatable sequence on another index than the first one.

While *Use File Sequence* is enabled, the VDB file that is being used at the current frame will be shown under the *Filename* attribute.

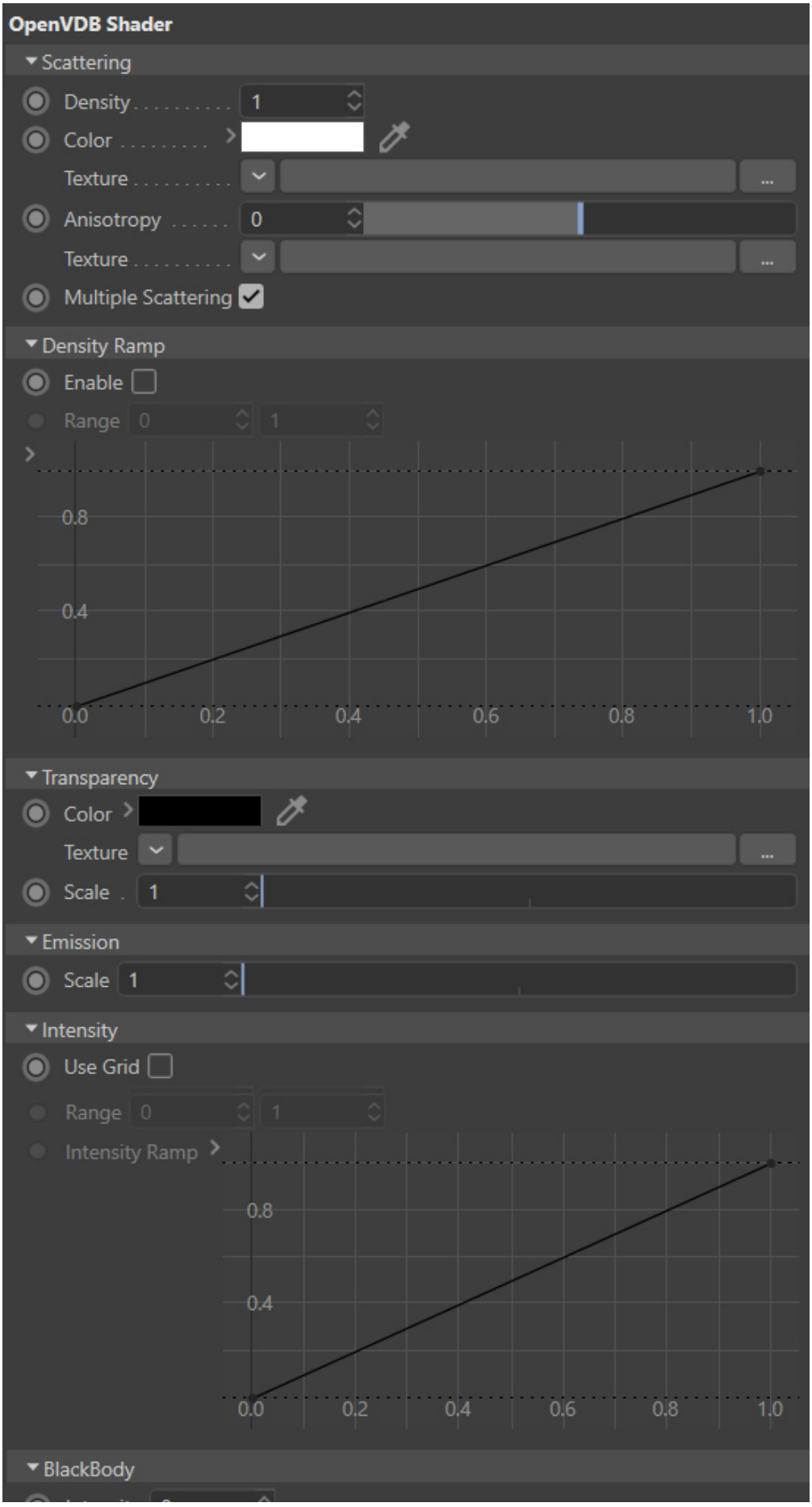
When *Use File Sequence* is turned off, the current frame number will be used to replace a number expression in the VDB file name, such as # or `<f>`.

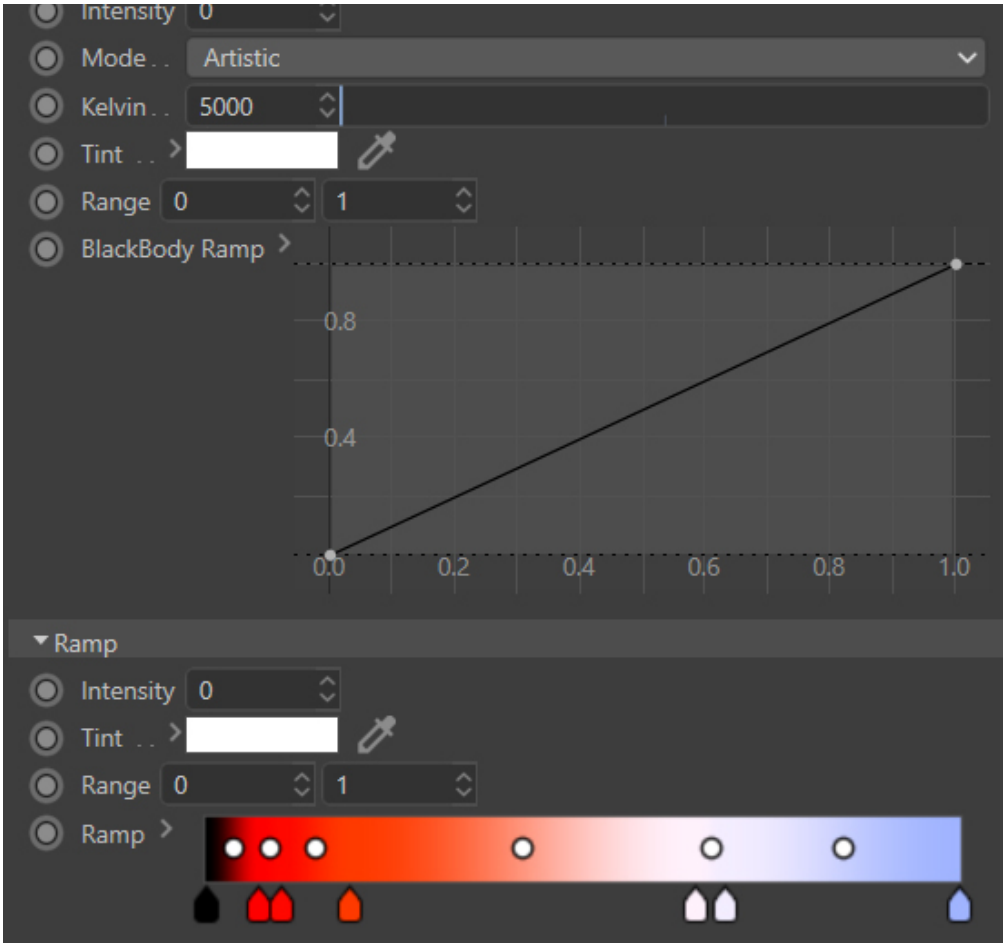
Showing the Open VDB volume in the viewport

By default, the VDB volume is drawn as a box in the viewport. It can be drawn as a point cloud by enabling the *Draw Points* option under *Object Display*.

Shading the Open VDB Volume

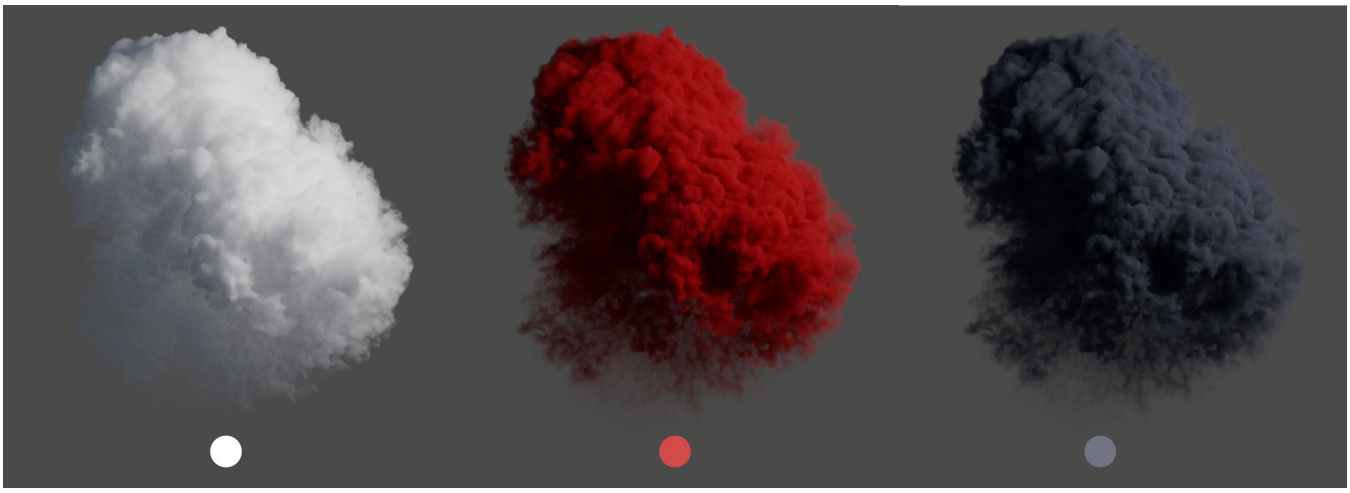
Shading an Open VDB volume is done by the volume shader assigned to the *3Delight Open VDB* shape. By default, these shapes are created with a *3Delight Open VDB Shader* is assigned to them.


OpenVDB Shader
Scattering
Density 1
Color
Texture
Anisotropy 0
Texture
Multiple Scattering
Density Ramp
Enable
Range 0 1
0.8
0.4
0.0 0.2 0.4 0.6 0.8 1.0
Transparency
Color
Texture
Scale 1
Emission
Scale 1
Intensity
Use Grid
Range 0 1
Intensity Ramp
0.8
0.4
0.0 0.2 0.4 0.6 0.8 1.0
BlackBody



Density

Color

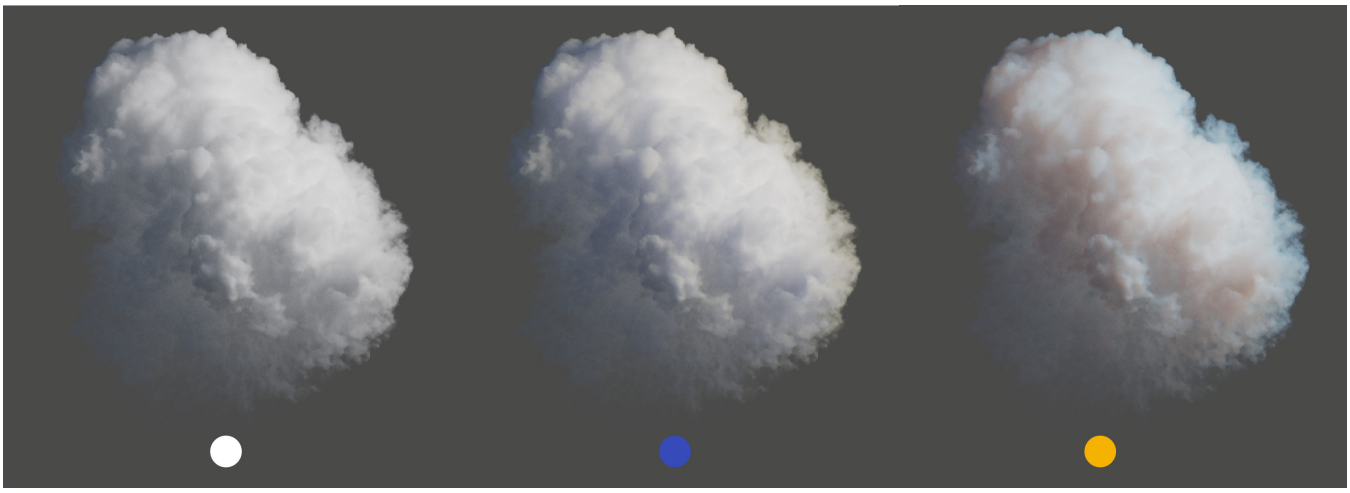


Anisotropy

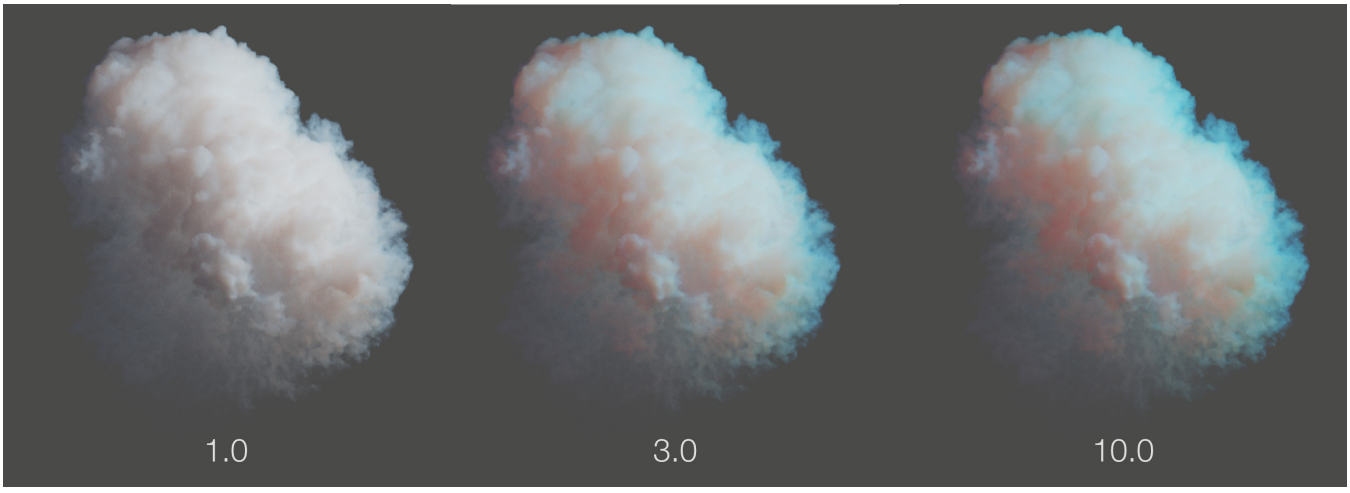
Multiple Scattering

Density Ramp

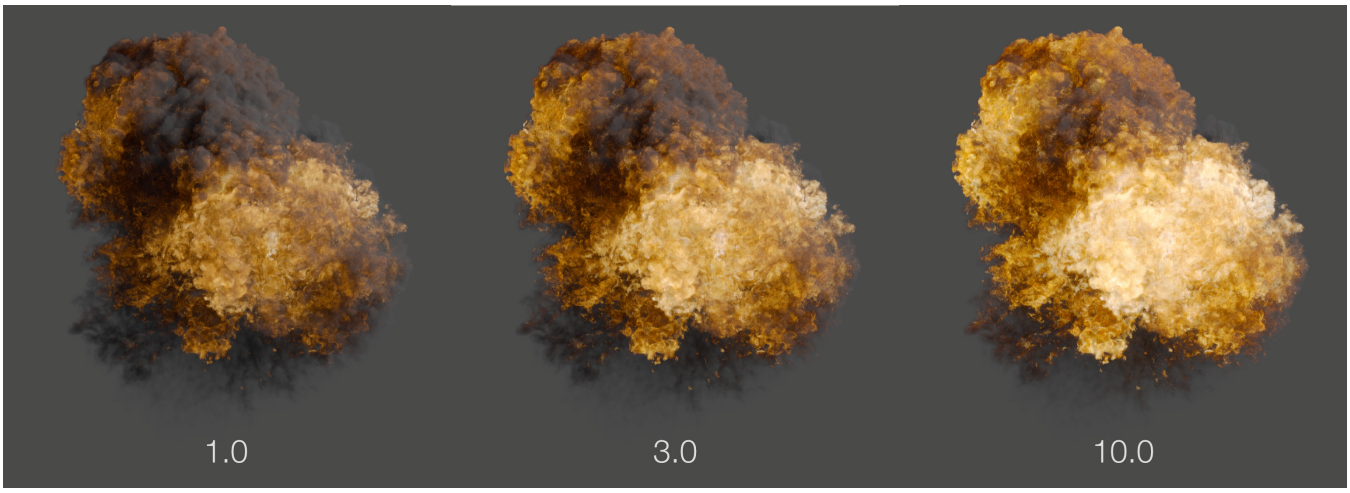
Transparency Color



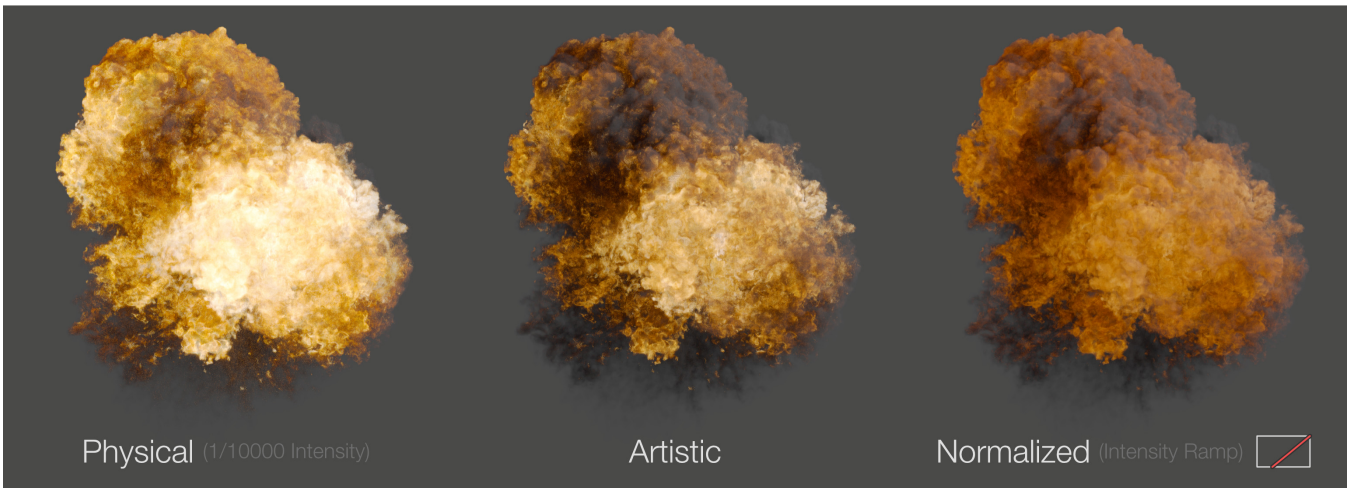
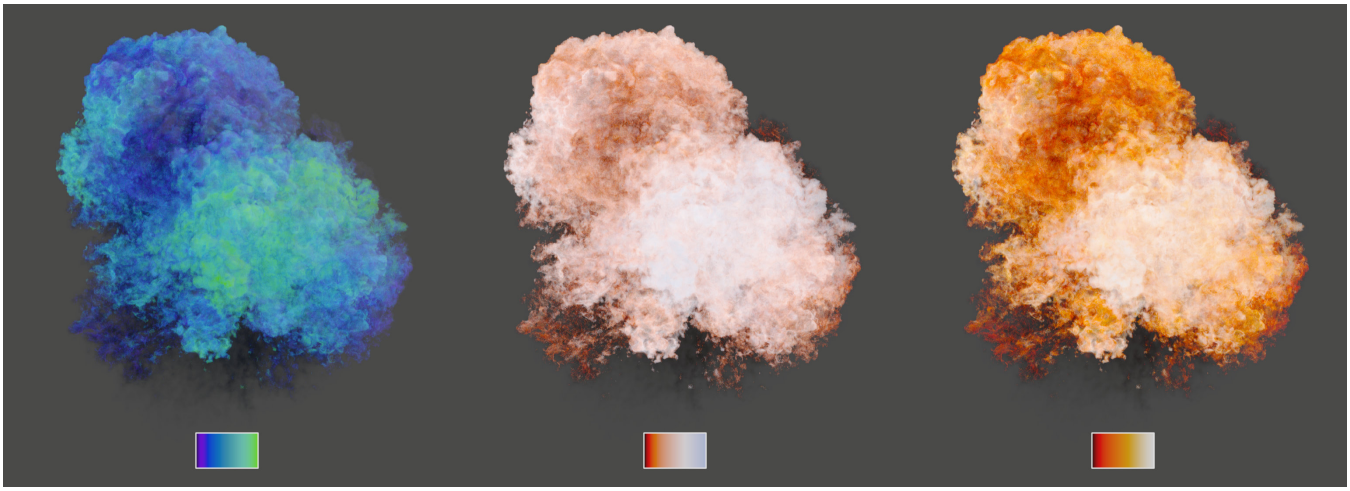
Transparency Scale



Emission Scale



Black Body Mode



Emission Color Ramp