Table 1. Stream-wise chemical hazards for the green methanol pathway, showing respective chemical content meeting explosion limits and exceeding acute toxicity thresholds.

Stream	CO	MeOH	H_2	CO_2	Water
1					
2				**≥5%, subtle physiological changes**	
3				**≥5%, subtle physiological changes**	
4				**≥5%, subtle physiological changes**	
5				**≥5%, subtle physiological changes**	
6	**≥0.2%, toxic** unconciousness in .5 hr of prolonged exposure	**within 6% - 35%, meets Explosive Limit** able to explode from ignition source, fire, or at high pressures at 464ºC **≥50,000 ppm, toxic** death in 1-2 hr of prolonged exposure	**within 4%-75%, meets Explosive Limit** able to explode from ignition source or fire	**≥5%, subtle physiological changes**	
7					
8					
9	**≥0.2%, toxic** unconciousness in .5 hr of prolonged exposure	**within 6% - 35%, meets Explosive Limit** able to explode from ignition source, fire, or at high pressures at 464ºC **≥50,000 ppm, toxic** death in 1-2 hr of prolonged exposure	**within 4%-75%, meets Explosive Limit** able to explode from ignition source or fire	**≥5%, subtle physiological changes**	
10	**≥0.2%, toxic** unconciousness in .5 hr of prolonged exposure	**within 6% - 35%, meets Explosive Limit** able to explode from ignition source, fire, or at high pressures at 464ºC **≥50,000 ppm, toxic** death in 1-2 hr of prolonged exposure	**within 4%-75%, meets Explosive Limit** able to explode from ignition source or fire	**≥5%, subtle physiological changes**	
11	**≥0.2%, toxic** unconciousness in .5 hr of prolonged exposure			**≥5%, subtle physiological changes**	
12		**≥50,000 ppm, toxic** death in 1-2 hr of prolonged exposure			
13		**≥50,000 ppm, toxic** death in 1-2 hr of prolonged exposure			
14		**≥50,000 ppm, toxic** death in 1-2 hr of prolonged exposure			
15		**≥50,000 ppm, toxic** death in 1-2 hr of prolonged exposure			
16		**within 6% - 35%, meets Explosive Limit** able to explode from ignition source, fire, or at high pressures at 464ºC **≥50,000 ppm, toxic** death in 1-2 hr of prolonged exposure			
17	**≥0.2%, toxic** unconciousness in .5 hr of prolonged exposure			**≥5%, subtle physiological changes**	
18	**≥0.2%, toxic** unconciousness in .5 hr of prolonged exposure				
19		**≥50,000 ppm, toxic** death in 1-2 hr of prolonged exposure			
20		**≥50,000 ppm, toxic** death in 1-2 hr of prolonged exposure			
21	**≥0.2%, toxic** unconciousness in .5 hr of prolonged exposure				
22	**≥0.2%, toxic** unconciousness in .5 hr of prolonged exposure			**≥5%, subtle physiological changes**	
23	**≥0.2%, toxic** unconciousness in .5 hr of prolonged exposure			**≥5%, subtle physiological changes**	
24	**≥0.2%, toxic** unconciousness in .5 hr of prolonged exposure				
25	**≥0.2%, toxic** unconciousness in .5 hr of prolonged exposure				
26					
27	**≥0.2%, toxic** unconciousness in .5 hr of prolonged exposure				

Table 2. Stream-wise chemical hazards for the conventional methanol pathway, showing respective chemical content meeting explosion limits and exceeding acute toxicity thresholds.

Stream	CO	MeOH	H_2	CO_2	Water
1					
2				**≥5%, subtle physiological changes**	
3	**≥0.2%, toxic** unconciousness in .5 hr of prolonged exposure		**within 4%-75%, meets Explosive Limit** able to explode from ignition source or fire	**≥5%, subtle physiological changes**	
4	**≥0.2%, toxic** unconciousness in .5 hr of prolonged exposure		**within 4%-75%, meets Explosive Limit** able to explode from ignition source or fire	**≥5%, subtle physiological changes**	
5	**≥0.2%, toxic** unconciousness in .5 hr of prolonged exposure		**within 4%-75%, meets Explosive Limit** able to explode from ignition source or fire	**≥5%, subtle physiological changes**	
6	**≥0.2%, toxic** unconciousness in .5 hr of prolonged exposure	**within 6% - 35%, meets Explosive Limit** able to explode from ignition source, fire, or at high pressures at 464°C **≥50,000 ppm, toxic** death in 1-2 hr of prolonged exposure	**within 4%-75%, meets Explosive Limit** able to explode from ignition source or fire	**≥5%, subtle physiological changes**	
7					
8					
9	**≥0.2%, toxic** unconciousness in .5 hr of prolonged exposure	**within 6% - 35%, meets Explosive Limit** able to explode from ignition source, fire, or at high pressures at 464°C **≥50,000 ppm, toxic** death in 1-2 hr of prolonged exposure	**within 4%-75%, meets Explosive Limit** able to explode from ignition source or fire	**≥5%, subtle physiological changes**	
10	**≥0.2%, toxic** unconciousness in .5 hr of prolonged exposure	**within 6% - 35%, meets Explosive Limit** able to explode from ignition source, fire, or at high pressures at 464°C **≥50,000 ppm, toxic** death in 1-2 hr of prolonged exposure	**within 4%-75%, meets Explosive Limit** able to explode from ignition source or fire	**≥5%, subtle physiological changes**	
11	**≥0.2%, toxic** unconciousness in .5 hr of prolonged exposure			**≥5%, subtle physiological changes**	
12		**≥50,000 ppm, toxic** death in 1-2 hr of prolonged exposure			
13		**≥50,000 ppm, toxic** death in 1-2 hr of prolonged exposure			
14		**≥50,000 ppm, toxic** death in 1-2 hr of prolonged exposure			
15		**≥50,000 ppm, toxic** death in 1-2 hr of prolonged exposure			
16		**within 6% - 35%, meets Explosive Limit** able to explode from ignition source, fire, or at high pressures at 464°C **≥50,000 ppm, toxic** death in 1-2 hr of prolonged exposure			
17	**≥0.2%, toxic** unconciousness in .5 hr of prolonged exposure			**≥5%, subtle physiological changes**	
18	**≥0.2%, toxic** unconciousness in .5 hr of prolonged exposure	**within 6% - 35%, meets Explosive Limit** able to explode from ignition source, fire, or at high pressures at 464°C **≥50,000 ppm, toxic** death in 1-2 hr of prolonged exposure			
19	**≥0.2%, toxic** unconciousness in .5 hr of prolonged exposure	**within 6% - 35%, meets Explosive Limit** able to explode from ignition source, fire, or at high pressures at 464°C **≥50,000 ppm, toxic** death in 1-2 hr of prolonged exposure	**within 4%-75%, meets Explosive Limit** able to explode from ignition source or fire		
20		**within 6% - 35%, meets Explosive Limit** able to explode from ignition source, fire, or at high pressures at 464°C **≥50,000 ppm, toxic** death in 1-2 hr of prolonged exposure	**within 4%-75%, meets Explosive Limit** able to explode from ignition source or fire		
21	**≥0.2%, toxic** unconciousness in .5 hr of prolonged exposure	**within 6% - 35%, meets Explosive Limit** able to explode from ignition source, fire, or at high pressures at 464°C **≥50,000 ppm, toxic** death in 1-2 hr of prolonged exposure	**within 4%-75%, meets Explosive Limit** able to explode from ignition source or fire		
22		**within 6% - 35%, meets Explosive Limit** able to explode from ignition source, fire, or at high pressures at 464°C **≥50,000 ppm, toxic** death in 1-2 hr of prolonged exposure	**within 4%-75%, meets Explosive Limit** able to explode from ignition source or fire	**≥5%, subtle physiological changes**	
23	**≥0.2%, toxic** unconciousness in .5 hr of prolonged exposure	**within 6% - 35%, meets Explosive Limit** able to explode from ignition source, fire, or at high pressures at 464°C **≥50,000 ppm, toxic** death in 1-2 hr of prolonged exposure		**≥5%, subtle physiological changes**	