

$$\begin{aligned}
\text{process} &::= \text{decl}^+ \\
\text{decl} &::= \text{event_decl} \mid \text{protocol_decl} \mid \text{variable_decl} \mid \text{property_decl} \mid \text{rule_decl} \\
\text{event_decl} &::= \mathbf{event} \left(\text{event_name} \left(, \text{event_name} \right)^* ; \right)^+ \\
\text{protocol_decl} &::= \mathbf{protocol} \left(\text{protocol} ; ; \right)^+ \\
\text{protocol} &::= \mathbf{any} \mid \text{event_name} \mid \text{protocol} ; \text{protocol} \\
&\quad \mid \text{protocol} + \text{protocol} \mid \text{protocol} * \mid \text{protocol} ? \mid \left(\text{protocol} \right) \\
\text{variable_decl} &::= \mathbf{variable} \left(\text{var_name} \left(, \text{var_name} \right)^* \left(: \text{type} \right)^? ; \right)^+ \\
\text{type} &::= \mathbf{prop} \mid \mathbf{nat} \left(\text{nat_num} \right) \\
\text{property_decl} &::= \mathbf{property} \left(\text{ldl_formula} ; \right)^+ \\
\text{rule_decl} &::= \mathbf{rule} \text{ rule}^+ \\
\text{rule} &::= \mathbf{except}^? \mathbf{on} \text{event_name} \left(, \text{event_name} \right)^* \left(\{ \text{code} \} \right)^? \\
&\quad \left(\mathbf{when} \text{condition} \left(\{ \text{code} \} \right)^? \right)^? \\
&\quad \text{action}^+ \\
\text{condition} &::= \text{proposition} \mid < \text{ldl_path} > \text{condition} \\
\text{action} &::= \mathbf{ensure} \text{proposition} \left(\{ \text{code} \} \right)^? \\
&\quad \mid \mathbf{raise} \text{event_name} \left(+ \text{event_name} \right)^* \left(\{ \text{code} \} \right)^? \\
&\quad \mid \mathbf{do} \{ \text{code} \} \\
&\quad \mid \mathbf{preserve} \text{proposition}
\end{aligned}$$