INVESTIGATION REPORT

(Direct all communications to secretariat@safex-international.org)

INCIDENT NOTICE NO.	INVESTIGATION REPORT NO.
None	IR897

1. DATE AND TIME OF INCIDENT (When?):

22/06/20 at 10.30am

2. INCIDENT LOCATION (Where?):

a. **Company name**: Roxel UK
b. **Company facility**: Summerfield, Kidderminster, United Kingdom
c. **Process outline**: Rotary cutting operation of extruded double base 1mm cords to produce powder granules.

3. DESCRIPTION OF INCIDENT (What happened?):

Operator heard a change of sound within the roller chamber feeding into the cutter face which was indicative of material building up and slowing the rollers. The operator broke the material feed and activated the emergency stop. Shortly afterwards smoke was observed briefly coming from the front guide leading into the cutter chamber

4. IMPACT OF INCIDENT (What effect?):

The ignition was localised to within the roller chamber which feeds the cutter face. No propagation occurred to remainder of cut powder or the remains of the material within the cutter chamber. No injuries or fatalities resulted.

5. LIKELY CAUSE OF INCIDENT (Why did it happen?):

The cause was attributed to the build-up propellant inside the feed rollers followed by Frictional heating and ignition, based on observations during subsequent machine inspection. The build-up of material was consistent with the audible indicator of material 'chewing up' as the operators refer to it as.

The propellant type was known for propensity to build up within the roller chamber, based on the formulation driven physical properties. There were several variables within the process which exacerbated these physical properties, and the process was dependant on operator and supervision experience to account for them

Tests on material collected from the incident were laboratory tested to confirm no abnormal sensitiveness or stability properties.

Machine inspection also confirmed no abnormal settings or running issues, and confirmed the set up and adjustment was correct.

6. ACTIONS TO PREVENT RECURRENCE (How to prevent it?):

Increased frequency of inspection of the roller chamber to identify and remove any potential build-up of material. Specifically this will be between every cutting operation of <2.5kgs.

More controlled process of chilling the strands prior to cutting to reduce batch to batch and within bath variations in physical properties.

Monitor process for other variables such as press pressure (indicator of physical property variation) and cell temperature to build up an improved relationship and therefore improved mandated controls in future.

7. LEARNING POINTS (What can we learn from this incident?):

The lessons learned from previous incidents within the industry, and from within member organisations, should be robustly embodied into process management systems, rather than relying on operator experience.

8. **OFFICIAL REPORT (Will there be an Official Report to follow?):** No

9. ORIGINATOR (Who submitted this report?):

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b. Position in the Company: Process Safety Coordinator
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