TROUBLESHOOTING VIA THE FISHBONE DIAGRAM METHOD鱼骨图法用于分析金属加工冷却液常见问题

What are Fishbone Diagram? 何为鱼骨图?

The Fishbone Diagram is a tool used to systematically investigate possible causes of problems. The ones included in this manual covers 8 problems common in water-based metalworking coolant applications.

作为分析问题的工具,鱼骨图法可以系统地分析问题的成因.本介绍主要就冷却液使用和维护过程中常见的八种现象运用鱼骨图法加以分析.

> Odors 异味

> Dermatitis 皮肤接触炎症

> Foam 泡沫

> Poor Tool Life or Finish 非正常加工刀具使用寿命或加工工件表面质量下降

> Rust 工件绣蚀

> High Coolant Consumption 高冷却液消耗

> Unacceptable Residues 工件或刀具表面残留物

> Change in pH 冷却液酸碱度变化

When confronted with one of these problems, work your way through the Fishbone Diagram that addresses it. You will identify the source of the problem by asking questions and eliminating potential causes that do not apply in your particular case.

对于实际发生的问题可以参照相对应的鱼骨图逐项查找原因.在应用现场,通过提问的形式排除法找出问题之所在.

How do I use Fishbone Diagrams? 如何运用鱼骨图?

1. Find the diagram that addresses the problem. The name of the problem is printed at the “head” of the fish (right side of the page).

找出于现场问题相对应的分析图.问题标注在“鱼骨顶部“(图形右侧).

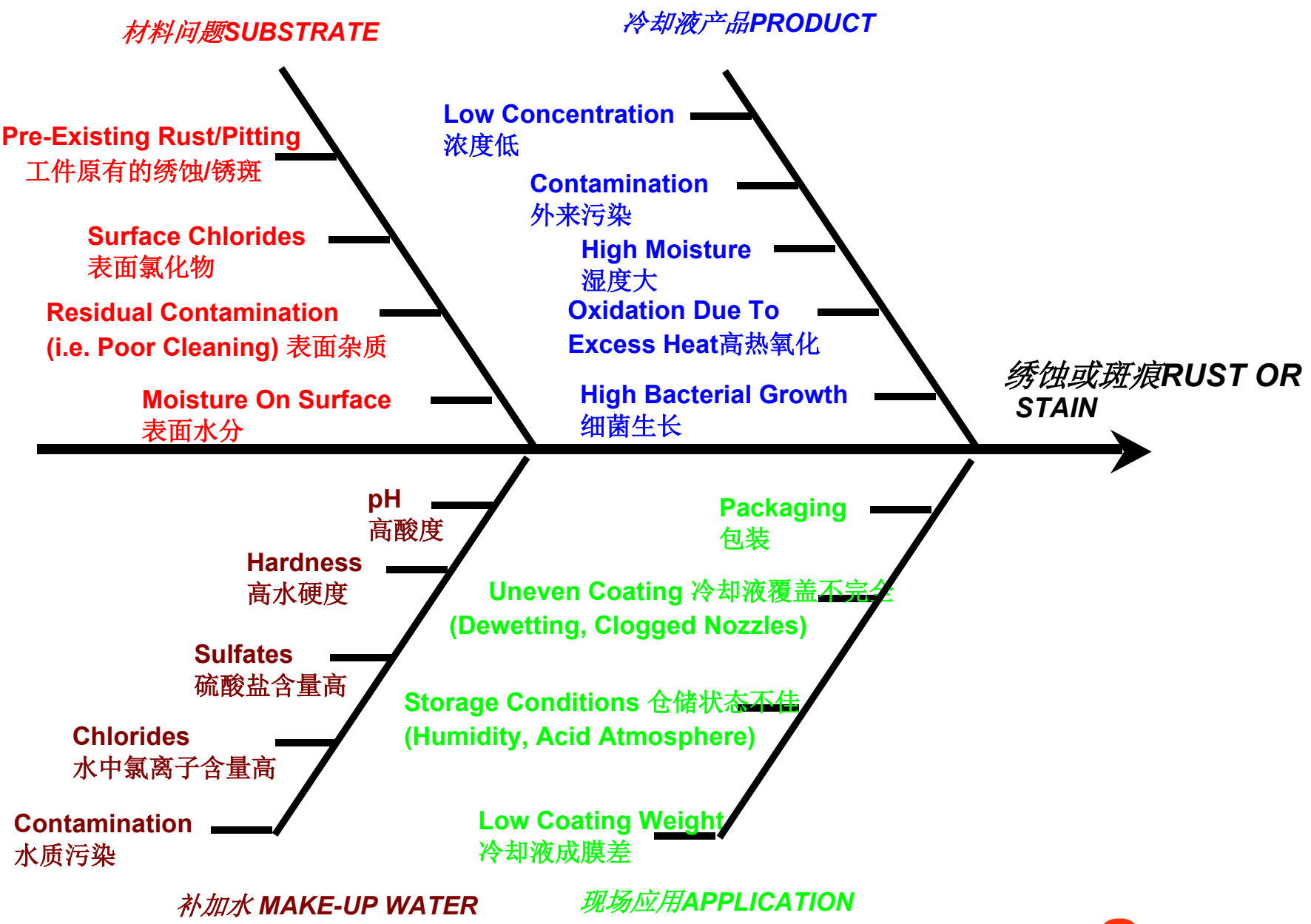
2. Look at the “ribs” protruding from the spine of the fish. These conditions commonly contribute to the problem. Each rib lists several variables that should be investigated.

逐项研究由鱼主椎骨分离出的斜骨.每一斜骨都可能是造成问题的原因. 在每一斜骨上给出的参数和变量应当进行详细的研究.

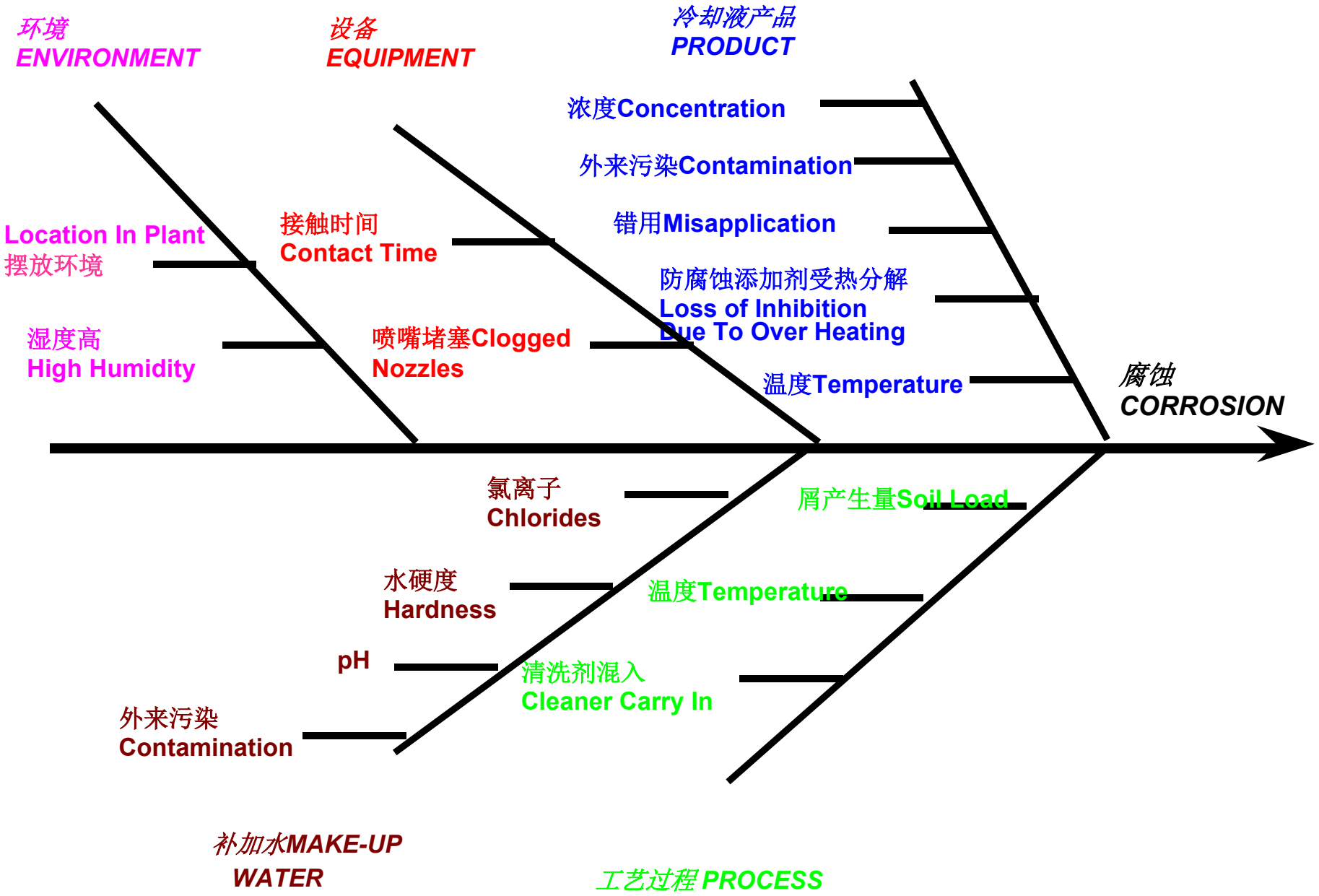
3. Move down the fishbone from head to tail (right to left) addressing each condition in sequence. The conditions are listed with the most common causes shown closest to the head. All variables must be investigated and determined to be in control or in need of correction.

将可能产生的原因从头到尾逐相分析.通常容易出现的原因有目的的放在靠近鱼头的位置.所有列出的原因和变量必须加以研究以达到有效控制和对出现问题的及时修正.

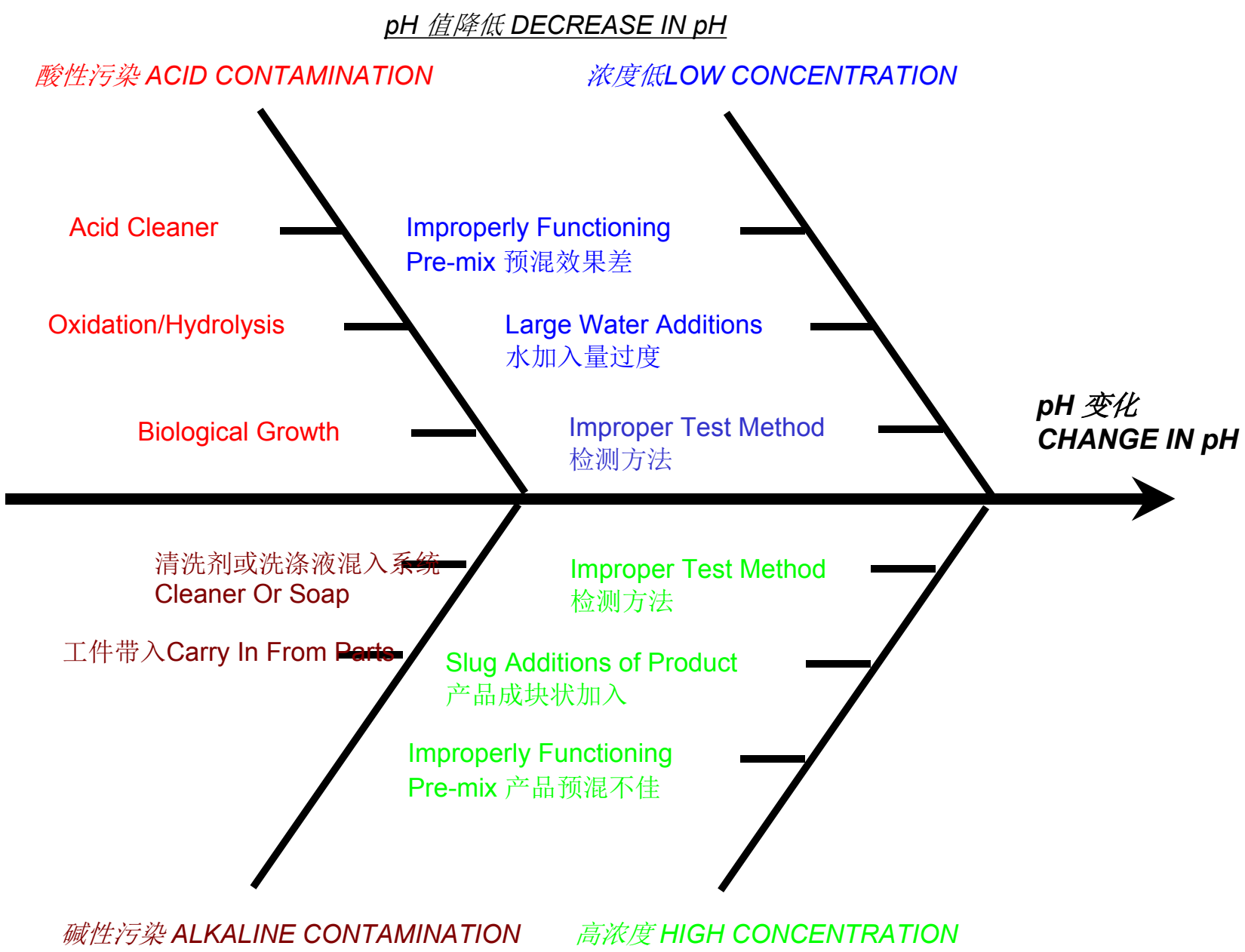
RHOXON
INDUSTRIAL LUBRICANTS



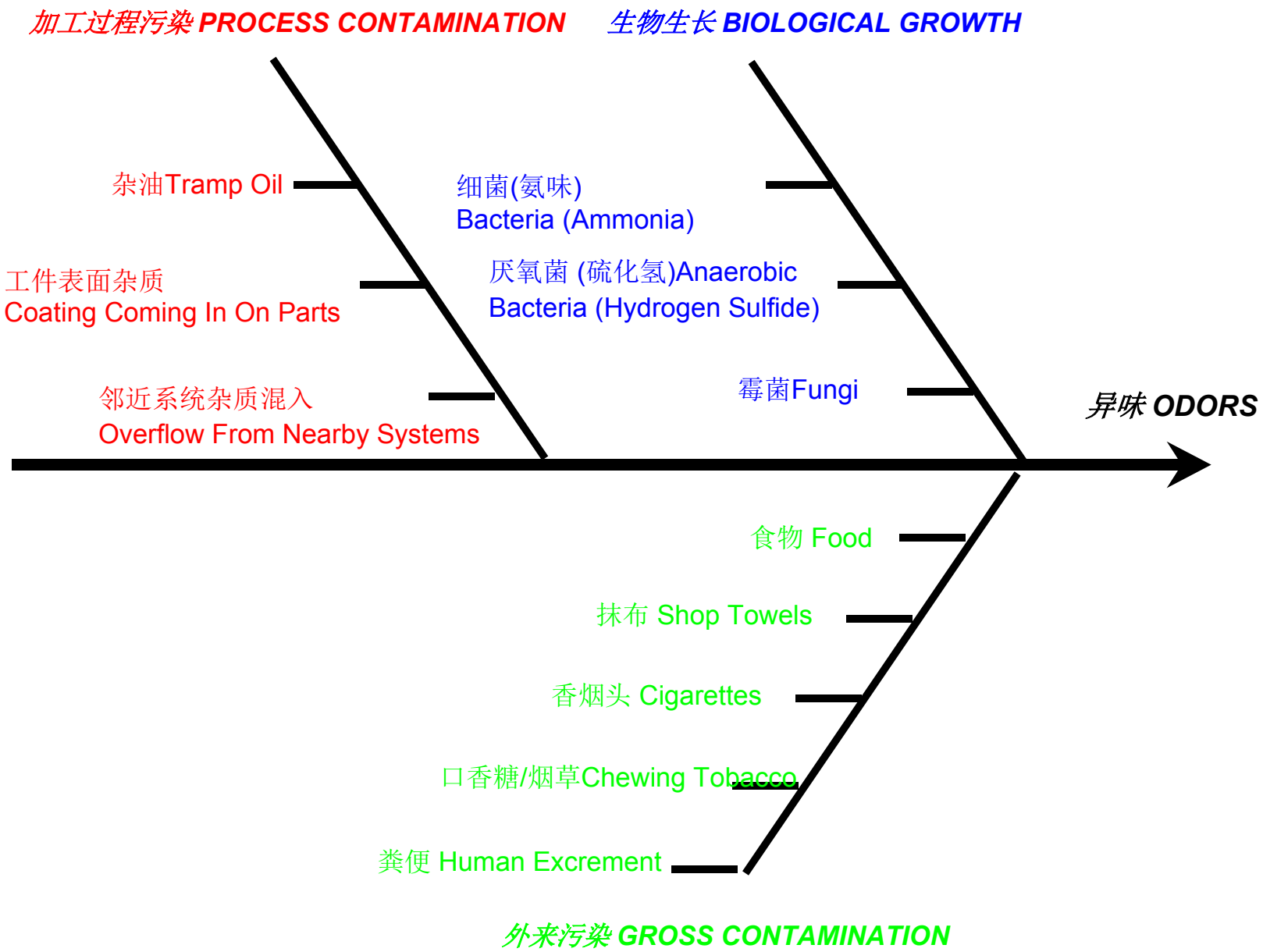
RHOXON
INDUSTRIAL LUBRICANTS



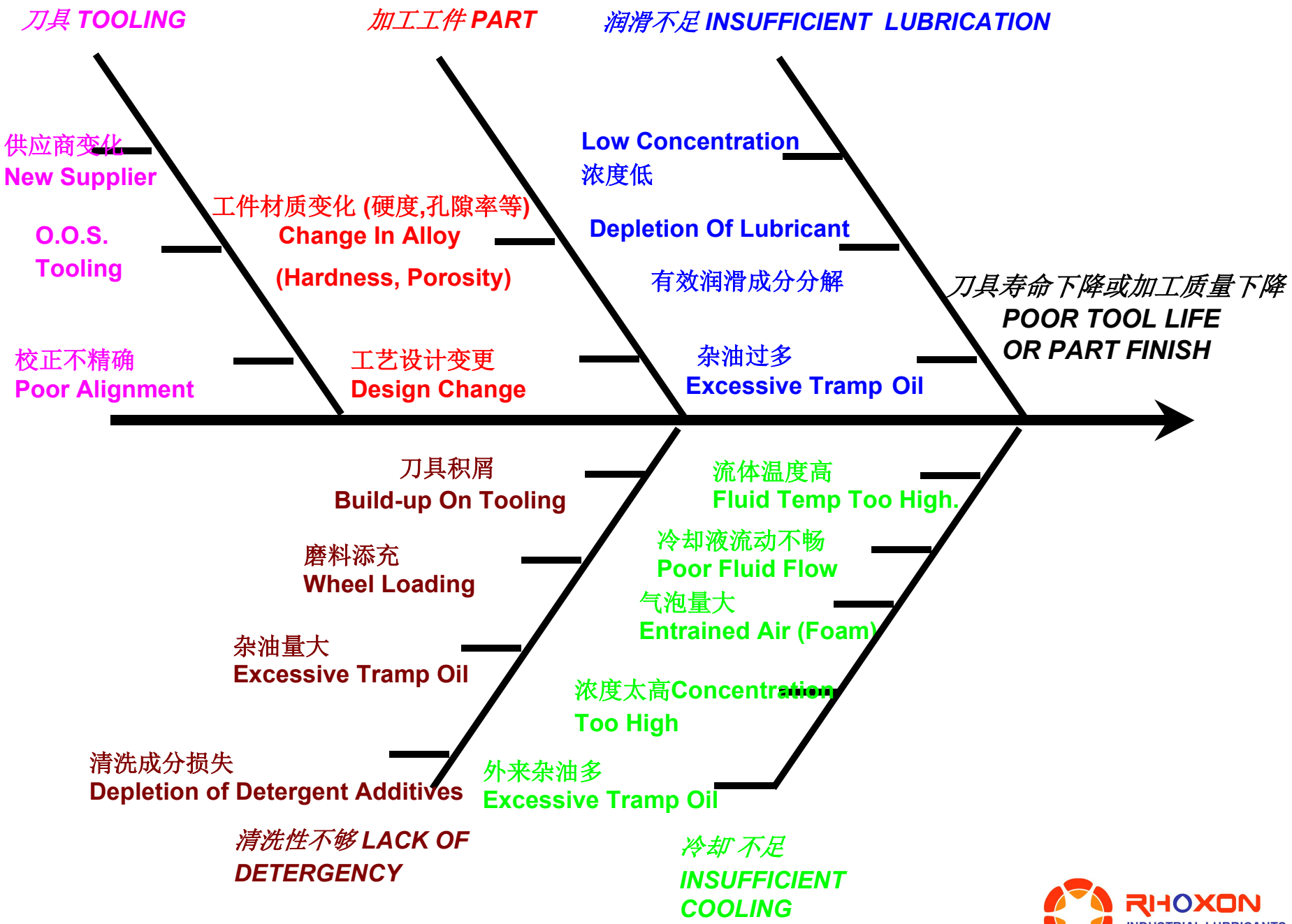
RHOXON
INDUSTRIAL LUBRICANTS



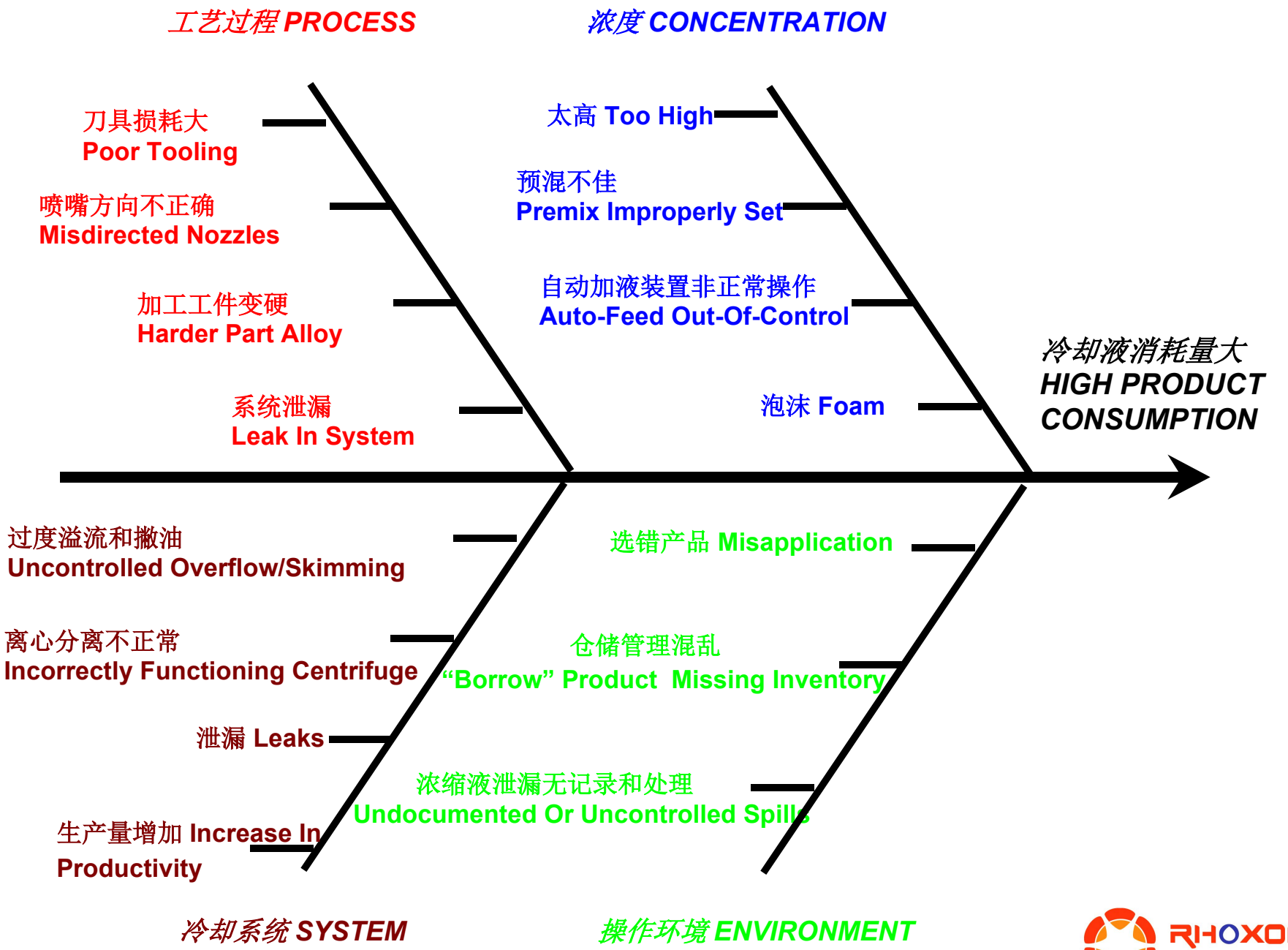
RHOXON
INDUSTRIAL LUBRICANTS



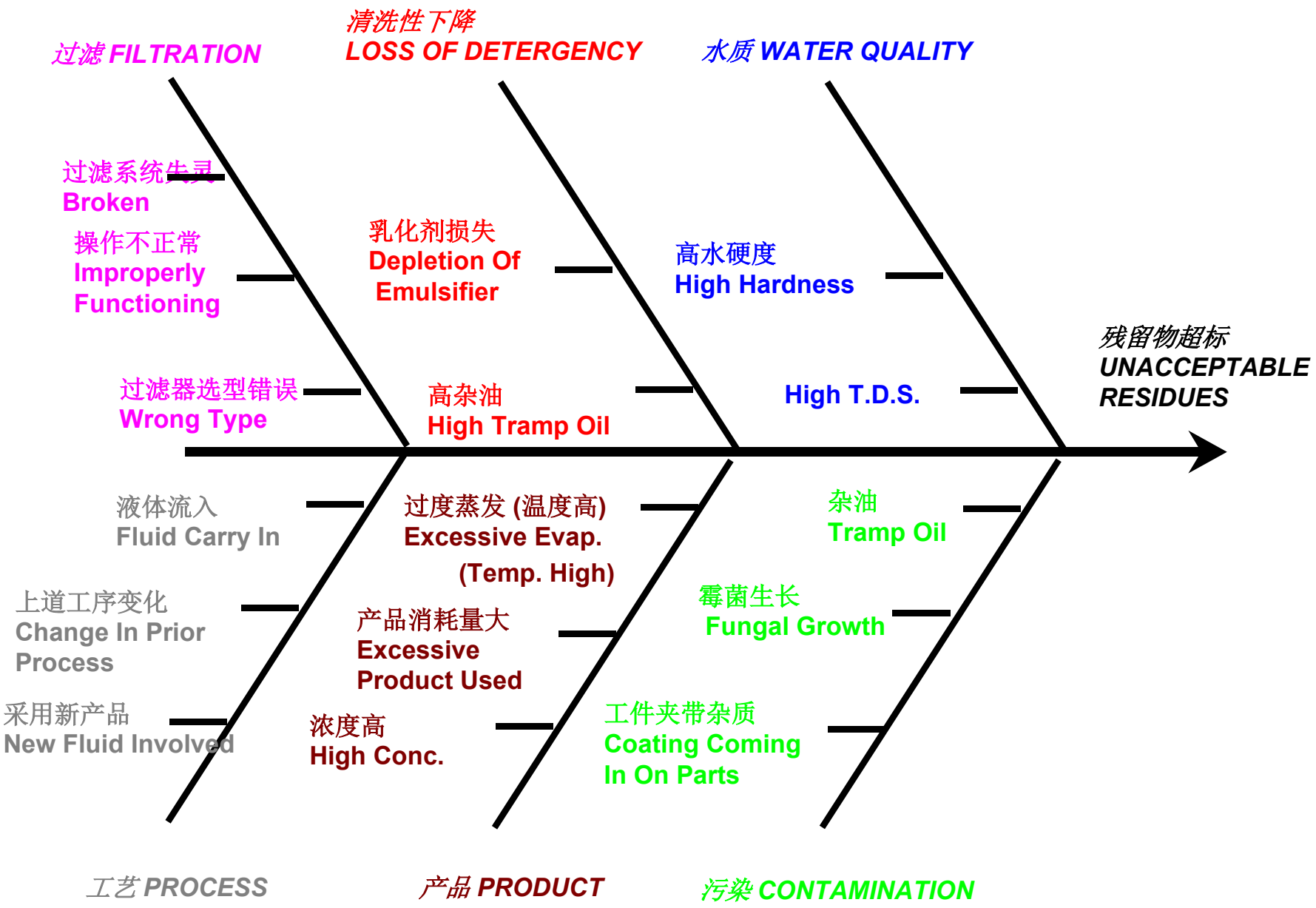
RHOXON
INDUSTRIAL LUBRICANTS



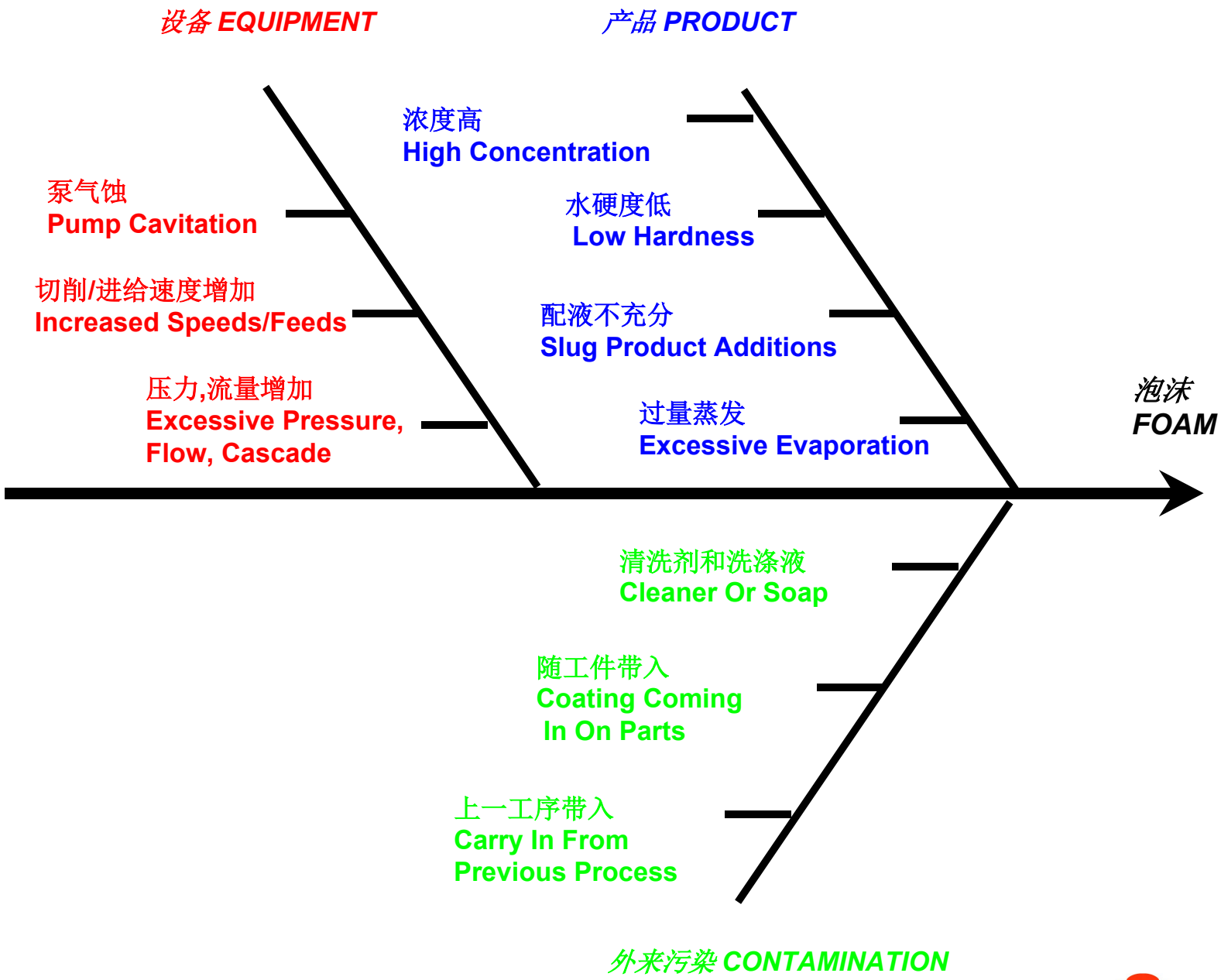
RHOXON
INDUSTRIAL LUBRICANTS



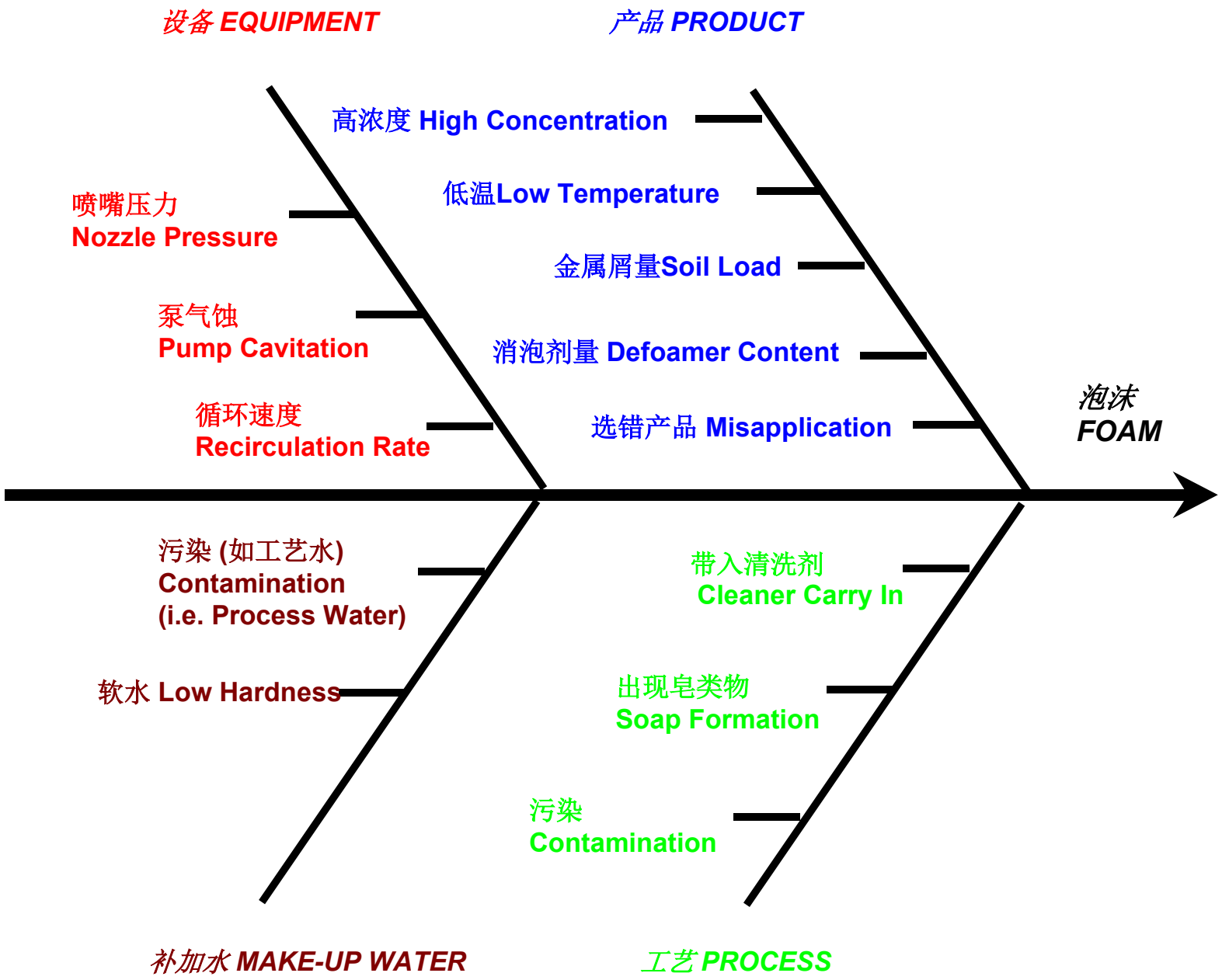
RHOXON
INDUSTRIAL LUBRICANTS



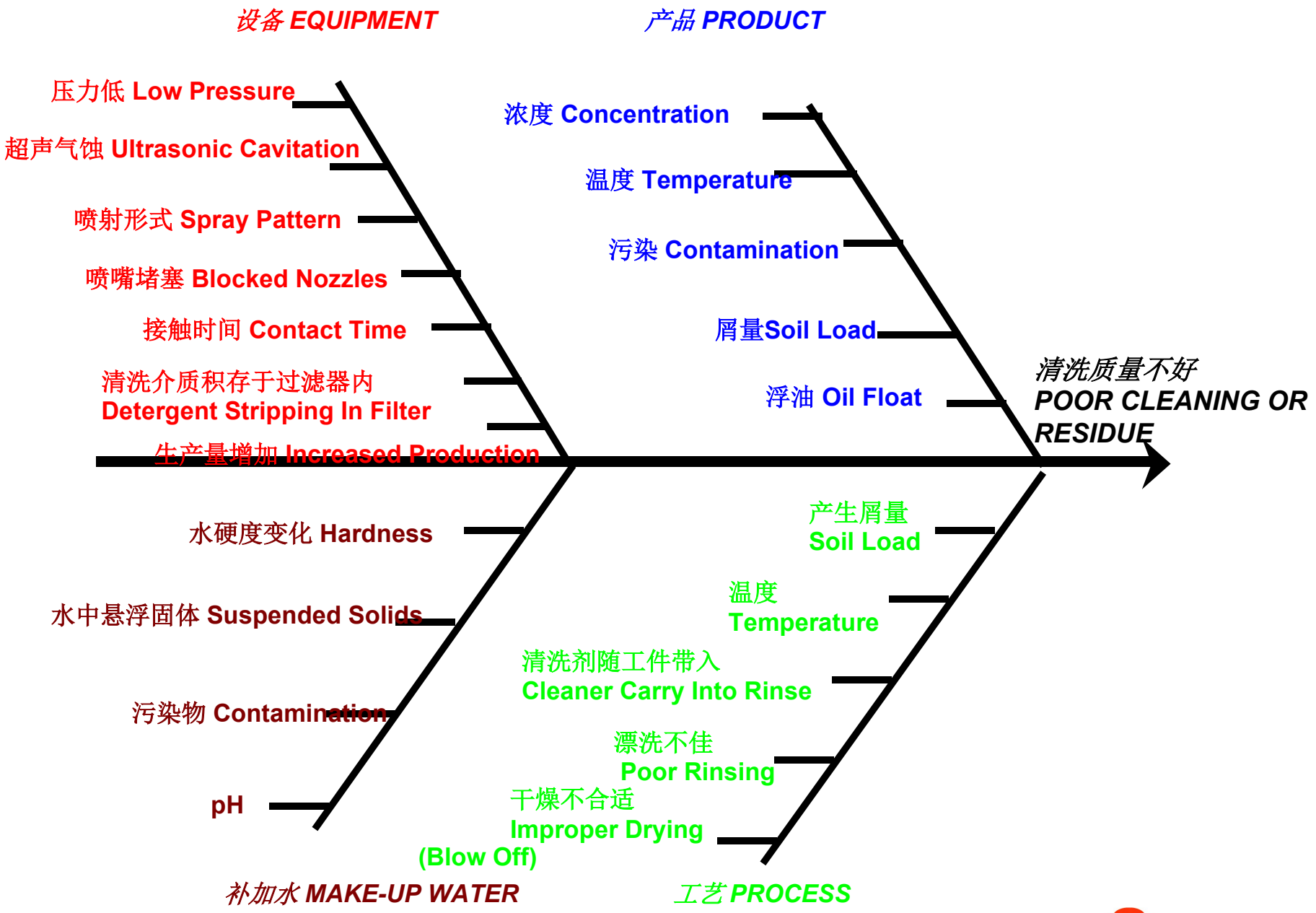
RHOXON
INDUSTRIAL LUBRICANTS



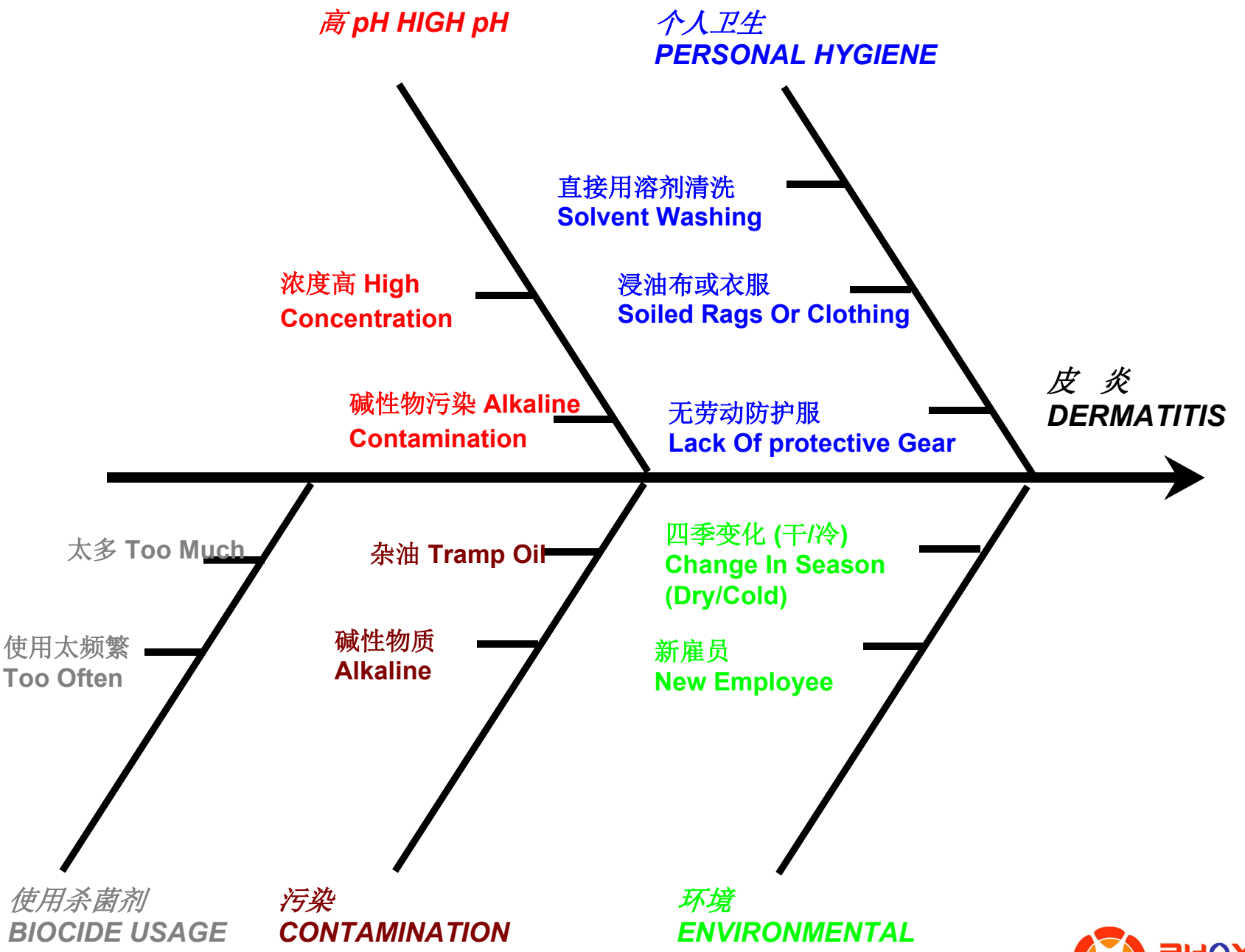
RHOXON
INDUSTRIAL LUBRICANTS



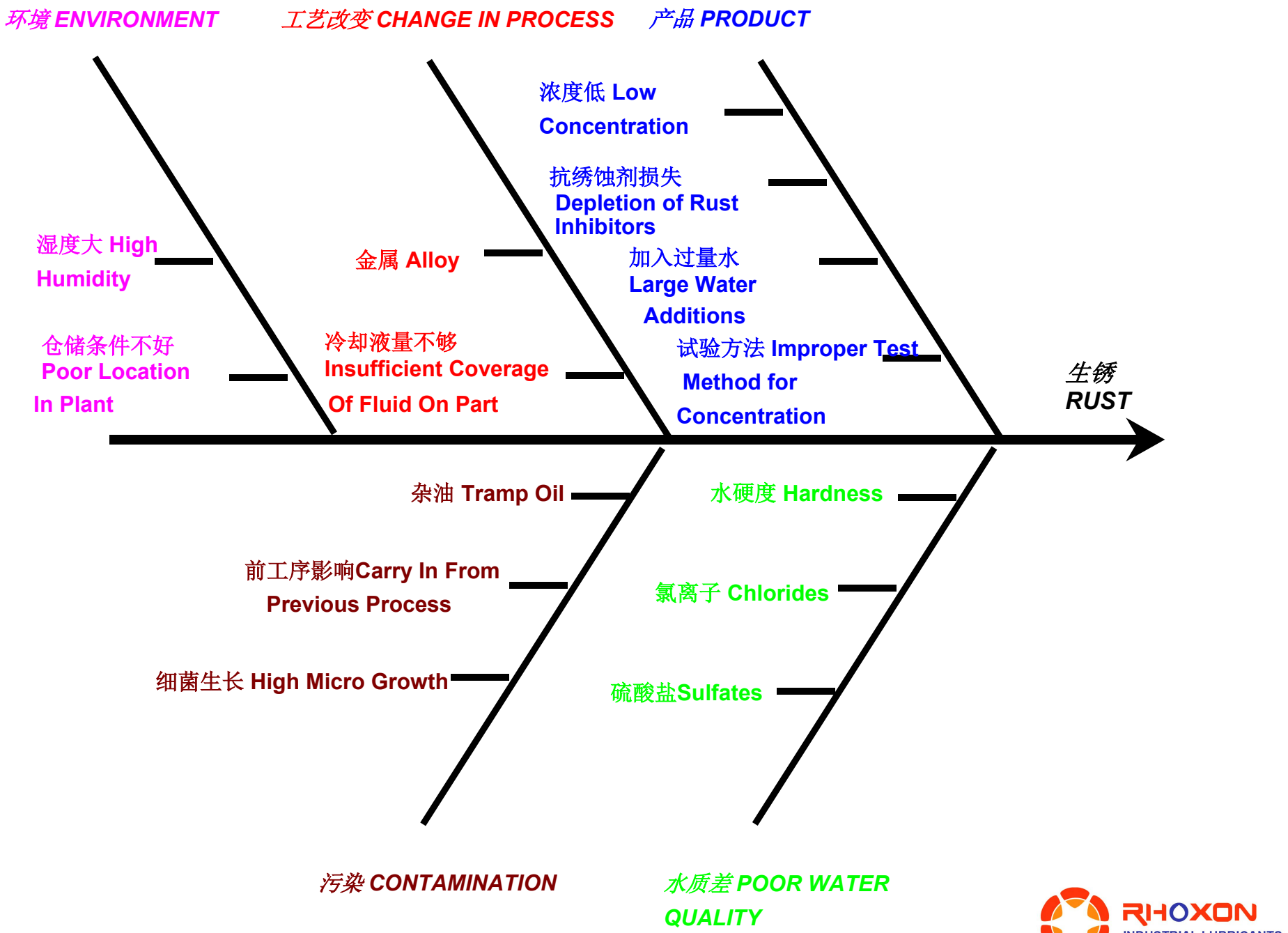
RHOXON
INDUSTRIAL LUBRICANTS



RHOXON
INDUSTRIAL LUBRICANTS



RHOXON
INDUSTRIAL LUBRICANTS



RHOXON
INDUSTRIAL LUBRICANTS