

Distributor Training

Metalworking Product Line Insights

John Harris – May 2025



Agenda

1. **John Harris Introduction**
2. **Review Updated Core Line**
 - Solubles
 - Neats
 - Rust Preventatives
 - Cleaners
3. **Review Survey Forms**
4. **Troubleshooting Fishbone**
5. **QUAKERCOOL 7750**

John Harris: PAM – Metal Fluid Technology

- **2011-2016: Wallover Oil → Chemist**
 - R&D, Tech Service, & QA Chemist
 - Developed products including NCO, SCO, RP, & Hyd. & Lubes
 - Worked in field with Sales & Customers to help find ideal product & fix customer issues
- **2016-2019: Houghton → Lab Supervisor**
 - Supervised QA, R&D, & Tech Service,
 - Continued work with Sales & Customers to help find ideal product & fix customer issues
- **2019-2024: QH → SPLM/GSPLM**
 - Develop & Execute Strategic plans for NCO product line
 - Support R&D in Technical Service initiatives
- **2025: QH → PAM**
 - Lead PAM for Indirect Channel
 - Work in field with Sales & Customers to help find ideal product & fix customer issues



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5. **QUAKERCOOL 7750**

SOLUBLE CUTTING OILS

PRODUCT	ITEM NUMBER	PERFORMANCE	METALS	ALUMINUM	FERROUS	TITANIUM/NICKEL ALLOY	YELLOW METALS	MACHINABILITY	GRINDING	INITIAL WATER HARDNESS	FEATURES	BORON FREE	SECONDARY AMINE FREE	MEA FREE	EP ADDITIVES
SOLUBLE OIL TECHNOLOGY															
HOCUT® 795-H	200374	Better		●	●	●	●	4	●	0-200		●	●	●	●
HOCUT® 795-B	200151	Better		●	●	●	●	5	●	200-300		●	●	●	●
HYDROSOL® 3707	300914	Good		●	●	●	●	3	●	0-100		●	●	●	●
QUAKEROL® 7450B	017472	Best		●	●	●	●	5	●	0-300		●	●	●	●
SEMI-SYNTHEHTIC TECHNOLOGY															
DASCOOL® 2357	202314	Better		●	●	●	●	4	●	200-300		●	●	●	●
HOCUT® 3740	204052	Good		●	●	●	●	3	●	0-200		●	●	●	●
HOCUT® 3745	300591	Good		●	●	●	●	2	●	0-200		●	●	●	●
HYDROLSOL® 5035	016864	Good		●	●	●	●	3	●	0-100		●	●	●	●
QH ALTIMAX™ M 3366	017112	Better		●	●	●	●	4	●	0-100		●	●	●	●
QUAKERCOOL® 740	016047	Good		●	●	●	●	2	●	100-300		●	●	●	●
QUAKERCOOL® 7750	017167	Best		●	●	●	●	4	●	100-300		●	●	●	●
HOCUT® 4260	200148	Best		●	●	●	●	5	●	0-300		●	●	●	●
SYNTHETIC TECHNOLOGY															
HOCUT® 4134B	202329	Best		●	●	●	●	2	●	0-300		●	●	●	●
HOCUT® 767	202342	Good		●	●	●	●	1	●	0-300		●	●	●	●
HOCUT® 769-D	202344	Best		●	●	●	●	4	●	0-300		●	●	●	●
QUAKERCOOL® 8013 L	017023	Good		●	●	●	●	2	●	0-300		●	●	●	●
QUAKERCOOL® 2776 XT	016743	Better		●	●	●	●	2	●	0-300		●	●	●	●
QUAKERCOOL® 2778 AE2	017207	Best		●	●	●	●	3	●	0-300		●	●	●	●
QUAKERCOOL® 8013	016894	Best		●	●	●	●	4	●	0-300		●	●	●	●



HOCUT 795-B – Boeing Approval

HOCUT 4260 – Versatile product

- Boron & Formaldehyde free
- Aerospace AL & Exotic Metals

QUAKERCOOL 740 – Good product for Ferrous

- User friendly price

QUAKERCOOL 7750 – Best Product

- Wide range of applications & metals

QUAKERCOOL 2776XT – M&G Synthetic fluid

- Almost exclusive to Ferrous
- Formulated for high bio-resistance compared to similar technologies

QUAKERCOOL 8013 – HD M&G fluid

- Specially formulated for Al & Aerospace Alloy machining
- Superior surface finish

NEAT CUTTING OILS

PRODUCT	ITEM NUMBER	PERFORMANCE	METALS	ALUMINUM	FERROUS	TITANIUM/NICKEL ALLOY	YELLOW METALS	VISCOSITY CST	FLASH POINT	FEATURES	ESTER	CHLORINE EP	PHOSPHOROUS EP	SULFUR EP	APPLICATION
NEAT CUTTING OILS															
CUTMAX® 570	202254	Best		●	●	●	●	42	182°C		●	●	●	●	Cutting/Broaching
CUT-MAX® 634-8	203148	Best		●	●	●	●	8	174°C		●	●	●	●	Drilling/Cutting
CUT-MAX® V10-EP	202186	Better		●	●	●	●	18	224°C		●	●	●	●	Cutting
DASCOLENE® 140	202238	Better		●	●	●	●	40	168°C		●	●	●	●	Cutting/Broaching
DASCOLENE® 617 US	200165	Best		●	●	●	●	18	183°C		●	●	●	●	Grinding/Cutting
EDM 244	019386	Better		●	●	●	●	2.5	110°C		●	●	●	●	EDM
EDM SUPER SUPREME	017388	Best		●	●	●	●	3	121°C		●	●	●	●	EDM
GARIA® 405 M-22 US	200132	Good		●	●	●	●	22	190°C		●	●	●	●	Cutting
MACRON® 221 CM-32	202199	Better		●	●	●	●	32	188°C		●	●	●	●	Cutting
MACRON® 2405 M-4 US	200130	Best		●	●	●	●	4.5	138°C		●	●	●	●	Grinding/Honing
MACRON® 2425 S-14 US	202247	Better		●	●	●	●	14	182°C		●	●	●	●	Grinding/Honing
MACRON® SL 501	200083	Best		●	●	●	●	27	191°C		●	●	●	●	MQL
PROCUT® 65	203109	Best		●	●	●	●	12	163°C		●	●	●	●	Drilling/Grinding
PROCUT® SS	203113	Best		●	●	●	●	35	199°C		●	●	●	●	Cutting
PROCUT® SSLV	300152	Best		●	●	●	●	23	174°C		●	●	●	●	Cutting
QUAKERCUT® 004 PE	014389	Better		●	●	●	●	4	136°C		●	●	●	●	Grinding/Honing
QUAKERCUT® 005 XP	017037	Best		●	●	●	●	5	188°C		●	●	●	●	Grinding/Honing
QUAKERCUT® 010 EP	017034	Best		●	●	●	●	11	199°C		●	●	●	●	Grinding/Honing
QUAKERCUT® 010 ES	014240	Good		●	●	●	●	10	146°C		●	●	●	●	Grinding/Honing
QUAKERCUT® 020 EP	017033	Best		●	●	●	●	20	210°C		●	●	●	●	Cutting
WOCOCUT® SM-165	203116	Best		●	●	●	●	32	207°C		●	●	●	●	Cutting

CUT-MAX 570 – Aerospace Conformance

- Excellent wetting & penetrating characteristics

DASCOLENE 617US

- Several OEM & MTM Approvals
- Best Selling Product for years

EDM SUPER SUPREME – Synthetic Fluid

PROCUT 65 – Go To Heavy Duty

- Deep Hole Drilling & Grinding
- Stainless Steel & Exotic Metals
- Chlorine Free

PROCUT SSLV – General Purpose

QUAKERCUT 005XP, 010EP, 020EP

- Ester Based
- Aspiration Hazard Free



WOCOCUT SM-165 – Dual Purpose

METAL PROTECTION - RUST PREVENTATIVES

PRODUCT	ITEM NUMBER	INDOOR PROTECTION (MONTHS)	OUTDOOR PROTECTION (MONTHS)	APPLICATION	IMMERSION	SPRAY	BRUSH	ELECTROSTATIC	FLASH POINT	VISCOSITY CST	FILM THICKNESS	VOC	EPA 24 (LBS/GAL)	ASTM E1686-10 G/L	NOTES
SOLVENT/MINERAL OIL TECHNOLOGY															
FERROCOTE® 5856 BF	013314	12*	N/A		●	●	●	●	194°F	13	0.15 - 0.2 mm		2.08	N/A	
FERROCOTE® 5856 BF T1	013315	12*	N/A		●	●	●	●	176°F	3	0.13 mm		3.48	N/A	
FERROCOTE® 5856 BF T3	013380	3-6	N/A		●	●	●	●	163°F	2.9	0.1 mm		5.69	N/A	
FERROCOTE® 5900	014215	12+	N/A		●	●	●	●	266°F	12.5	0.15 - 0.2 mm		0.997	N/A	
RUST VETO® 4214 HF	202092	12	N/A		●	●	●	●	155°F	1.5	0.1 mm		5.9	N/A	
WATER SOLUBLE TECHNOLOGY															
RUST VETO® 2212	200170	1	N/A		●	●	●	●	N/A	N/A	N/A		N/A	N/A	5-7% Conc
RUST VETO® 4221 NB	202106	9	N/A		●	●	●	●	350° F	N/A	N/A		N/A	N/A	5-10% Conc
RUST VETO® 4222 S	202107	12	N/A		●	●	●	●	280° F	6.46	N/A		N/A	N/A	5-10% Conc
OUTDOOR PROTECTION TECHNOLOGY															
FERROCOTE® 5815 LVO	013767	12	6		●	●	●	●	230° F	20,000 cps	2.0-3.0 mm		3.01	N/A	Thixotropic
RUST VETO® 342	201560	36	12		●	●	●	●	108° F	N/A	2.5 mm		N/A	402	
RUST VETO® 377 HF	202090	24	6		●	●	●	●	150° F	6.46	0.3 mm		N/A	574	
STEEL PRODUCT LINE															
FERROCOTE® 61A US	007734	N/A	N/A		●	●	●	●	380° F	125 SUS	N/A		0.0	N/A	
FERROCOTE® 6130	013705	N/A	N/A		●	●	●	●	425° F	130 SUS	N/A		0.44	N/A	

Steel Metals Line– Specific PAM

- Specific Approvals
- Different Chemistry – Electrostatic
- Ability to paint over



FERROCOTE 5856 BF T1

- Several Auto Approvals (FORD/GM)
- Fingerprint neutralization

RUST VETO 2212

- Several Auto Approvals
- Full synthetic w/ very low residues

RUST VETO 4221NB & 4222S

- Similar Chemistries - Barium free
- Excellent humidity protection
- 4221NB wide acceptance as final preservation of blackened or phosphated parts

FERROCOTE 5815

- Thixotropic
- Long-term indoor and medium term outdoor
- Can be used as received or diluted with specific aliphatic solvents

RUST VETO 342

- Put on and leave alone for 3 years
- Writing can be seen clearly through film layer

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CLEANERS

PRODUCT	ITEM NUMBER	PERFORMANCE	APPLICATION	SOIL LOAD	METALS	ALUMINUM	FERROUS	YELLOW METALS	PRODUCT DATA	BIO-SAFE	OIL REJECTING	RP (MAX DAYS)	PH	VOC (G/L)	OPERATING TEMP	PRESSURE (PSI)
SUMP, MACHINE, MAINTENANCE AND FLOOR CLEANERS																
MTC 53	202499	Better	Sump	Mod-Heavy		●	●	●		●	●	0	9-11	N/A	<140°F	N/A
QH EXOMAX™ B 1311	301427	Better	Floor and Maint.	Moderate		●	●	●		●	●	0	6-9	0	Amb	N/A
QH EXOMAX™ F 1410	202502	Best	Floor and Maint.	Moderate		●	●	●		●	●	0	9-11	9.4	140°F	N/A
QUAKERCLEAN® 624 LX	009226	Best	Sump	Heavy		●	●	●		●	●	0	12	N/A	Amb	N/A
PROCESS CLEANERS																
KLEENSOL® #7	204309	Better	Solvent	Mod-Heavy		●	●	●		●	●	0	N/A	N/A	<120°F	10-20
QH EXOMAX™ 154	202478	Better	Spray	Moderate		●	●	●		●	●	14	9-11	N/A	<140°F	<3000
QH EXOMAX™ 5285 US	202482	Best	Spray	Mod-Heavy		●	●	●		●	●	30	9-11	N/A	<140°F	<3000
QH EXOMAX™ 5333	202483	Better	Vib/Soak	Mod-Heavy		●	●	●		●	●	7	9-11	N/A	<140°F	<250
QH EXOMAX™ 5334	202484	Better	Vibratory	Heavy		●	●	●		●	●	7	9-11	33	<140°F	<250
QH EXOMAX™ 5354	202485	Best	Spray/Vib	Light-Mod		●	●	●		●	●	14	6-9	31	<140°F	<3000
QJ EXOMAX™ 5380	205518	Best	Spray/Soak/Vib	Light		●	●	●		●	●	30	9-11	15	<140°F	<3000
QH EXOMAX™ 5398	202495	Best	Spray	Light		●	●	●		●	●	7	>11	209	<140°F	<3000
QH EXOMAX™ P 5718	202479	Better	Spray	Heavy		●	●	●		●	●	7	9-11	111	<140°F	<300
QH EXOMAX™ P 6411	301396	Best	Spray	Moderate		●	●	●		●	●	30	9-11	N/A	<140°F	<250
QUAKERCLEAN® 624 CP	014292	Better	Spray/Deburr	Light		●	●	●		●	●	30	9-11	143	<140°F	<7500
QUAKERCLEAN® 680 VDA	016084	Best	Spray/Vacuum	Moderate		●	●	●		●	●	60	9-11	N/A	<140°F	<3000
QUENCH KLEEN® 5343	200320	Best	Spray	Moderate		●	●	●		●	●	7	>11	N/A	<140°F	<250

MTC 53 – Go to

- All metals in sump
- Operator Friendly

QH EXOMAX 5380 – Multiple Applications

- Ambient temperature – reduce cost
- Corrosion inhibitors to prevent flash rusting

QH EXOMAX P 5718

- Fantastic biostability
- Pulls off oil at ambient temps
- Short term RP

QUAKERCLEAN 680 VDA – Go to for all metals

- Great for popping oil
- Designed specifically for Vacuum Dry Applications

QUAKERCLEAN 624CP

- Dual Purpose – providing short term corrosion protection
- Normal in process soils
- Used at several OEM customers

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 - Solubles
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3. **Review Survey Forms**
4. Troubleshooting Fishbone
5. **QUAKERCOOL 7750**

METAL REMOVAL PRODUCT RECOMMENDATION QUESTIONNAIRE

Metal Removal Product Recommendation Questionnaire

Date:

1. Customer Name:
2. Customer Location:
3. Account Manager:

MACHINE INFORMATION

1. Machine Characteristics: Central System ☐ Individual Sump ☐
2. Machine Manufacturer:
3. Capacity (gal):
4. Coolant Pressure (PSI):
5. Filtration Media:
Paper ☐ Cellulose ☐ Wedgewire ☐ Bag Filter ☐ Magnetic ☐ Centrifuge ☐

WATER QUALITY

1. Tap Water Hardness (ppm):
2. Water Conditioning Capabilities:
Reverse Osmosis ☐ Sodium Cycle Softener ☐ Deionization ☐ Other
3. Water used for makeup: Tap Water ☐ Conditioned Water ☐

INCUMBENT FLUID

1. Incumbent Supplier:
2. Incumbent Fluid Name:
3. Incumbent Pricing:
4. Type Of Cutting Fluid:
Solution Synthetic ☐ Semisynthetic ☐ Soluble Oil ☐ Neat Oil ☐
5. Complaints:
Rust ☐ Biological ☐ Tool Life ☐ Dermatitis ☐ Price ☐ Other ☐

MATERIAL MACHINED

- 1) Metal Type and Alloy:
- 2) Machining Operations Being Performed:

CURRENT PROCESS ISSUES AND OTHER IMPORTANT INFORMATION:

PROCESS CLEANER PRODUCT RECOMMENDATION QUESTIONNAIRE

Process Cleaner Product Recommendation Questionnaire

Date:

1. Customer Name:
2. Customer Location:
3. Account Manager:

WASHER INFORMATION

1. Washer Characteristics: Central System ☐ Individual Sump ☐ Multi-Stage ☐
2. Washer Manufacturer:
3. Capacity (gal):
4. Washer Type: (Spray, Immersion, Ultrasonic, Vibratory)

Multistage Washer detail

	Stage 1	Stage 2	Stage 3	Stage 4	Blow-Off
Product					
Concentration					
Temperature					
Pressure					
Time					
Dump Cycle					
Capacity					

5. Filtration Process:
6. Part Metal Type: (Brass, Copper, Steel, Aluminum, Cast Iron, Titanium, Other)
7. Previous Operation: (Machining, Heat Treat, Quench, Lapping, Forming, Other)
8. Part Soils: (Coolant, Oil, RP, grease, scale, other)
9. EHS Requirements: (pH, Chemical Restrictions)
10. Waste Water Treatment Requirements:
11. RP Requirements:

WATER QUALITY (If Soluble Technology)

1. Tap Water Hardness (ppm):
2. Water Conditioning Capabilities:
Reverse Osmosis ☐ Sodium Cycle Softener ☐ Deionization ☐ Other
3. Water used for makeup: Tap Water ☐ Conditioned Water ☐

INCUMBENT FLUID

1. Incumbent Supplier:
2. Incumbent Fluid Name:
3. Incumbent Fluid Pricing:
4. Issues with Incumbent:
Rust ☐ Biological ☐ Tool Life ☐ Dermatitis ☐ Price ☐ Other

CURRENT PROCESS ISSUES AND OTHER IMPORTANT INFORMATION:

CORROSION PROTECTION PRODUCT RECOMMENDATION QUESTIONNAIRE

Corrosion Protection Product Recommendation Questionnaire

Date:

1. Customer Name:
2. Customer Location:
3. Account Manager:

PROCESS PARAMETERS

1. Application: (Spray, Dip, Brush)
2. Capacity (gal):
3. Part Metal Type: (Brass, Copper, Steel, Aluminum, Cast Iron, Titanium, Other)
4. Previous Operation: (Machining, Heat Treat, Quench, Lapping, Forming, Other)
5. Subsequent Operation: (Assembly, Shipping, Painting, Machining, Storage, Welding)
6. Fluid Compatibilities: (Brake Fluid, Seals)
7. RP Properties: (Water Displacement, Water Separation, Fingerprint Suppression/Removal, Lubricity, Film Thickness)
 - a. Film: (Dry to Touch, greasy, Oily)
 - b. Required RP protection: (Months)
8. Storage Conditions: (Indoor, Outdoor, Shed)
9. Part Soils: (None, Coolant, Oil, RP, grease, scale, other)
10. EHS Requirements: (VOC, Flashpoint, Other)
11. Waste Water Treatment Requirements:

WATER QUALITY (If Soluble Technology)

1. Tap Water Hardness (ppm):
2. Water Conditioning Capabilities:
Reverse Osmosis ☐ Sodium Cycle Softener ☐ Deionization ☐ Other
3. Water used for makeup: Tap Water ☐ Conditioned Water ☐

INCUMBENT FLUID

1. Incumbent Supplier:
2. Incumbent Fluid Name:
3. Incumbent Fluid Price:
4. Current Product Chemistry: (Solvent, Oil, Soluble)
5. Issues with Incumbent:
Rust ☐ Biological ☐ Tool Life ☐ Dermatitis ☐ Price ☐ Other

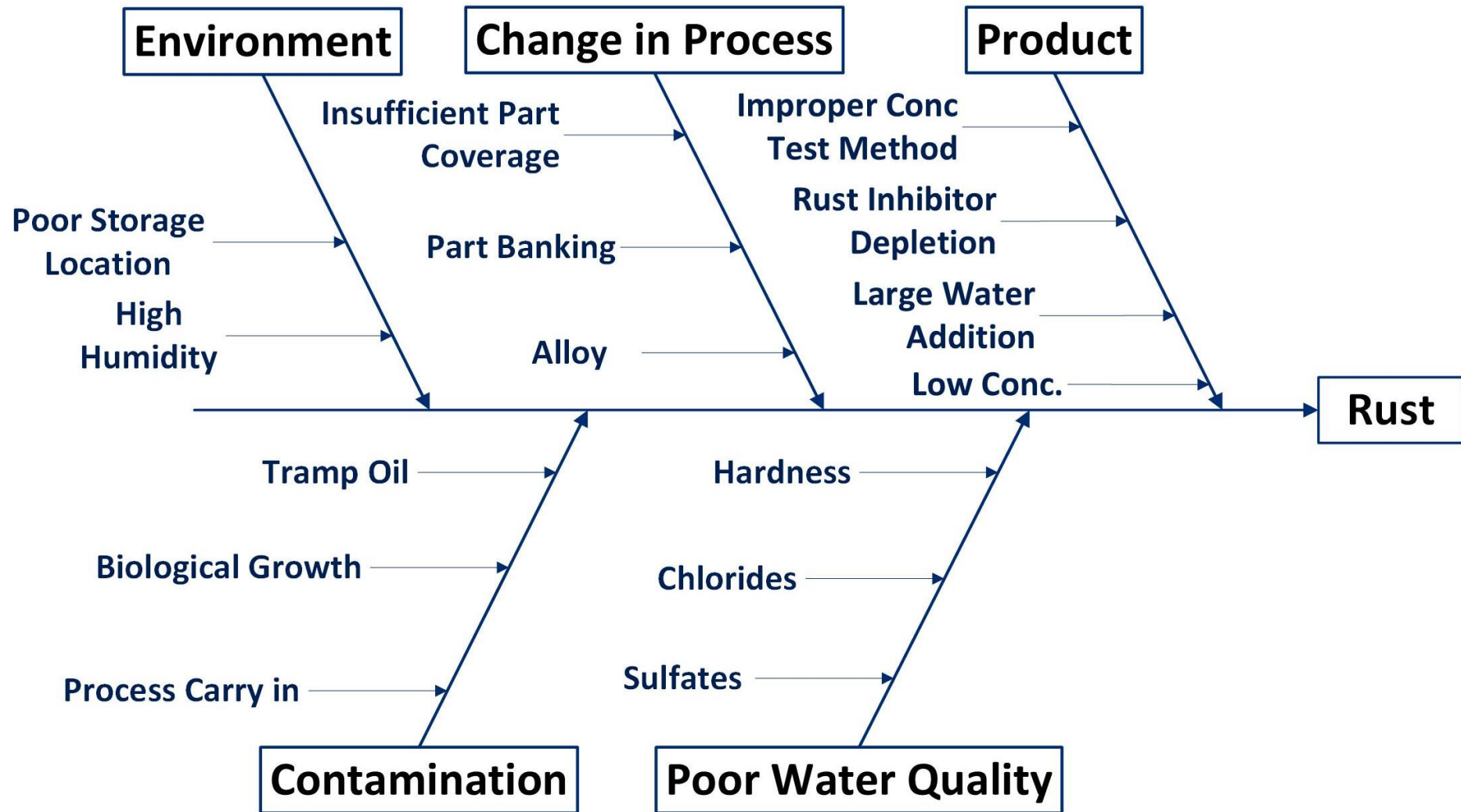
OTHER IMPORTANT INFORMATION:

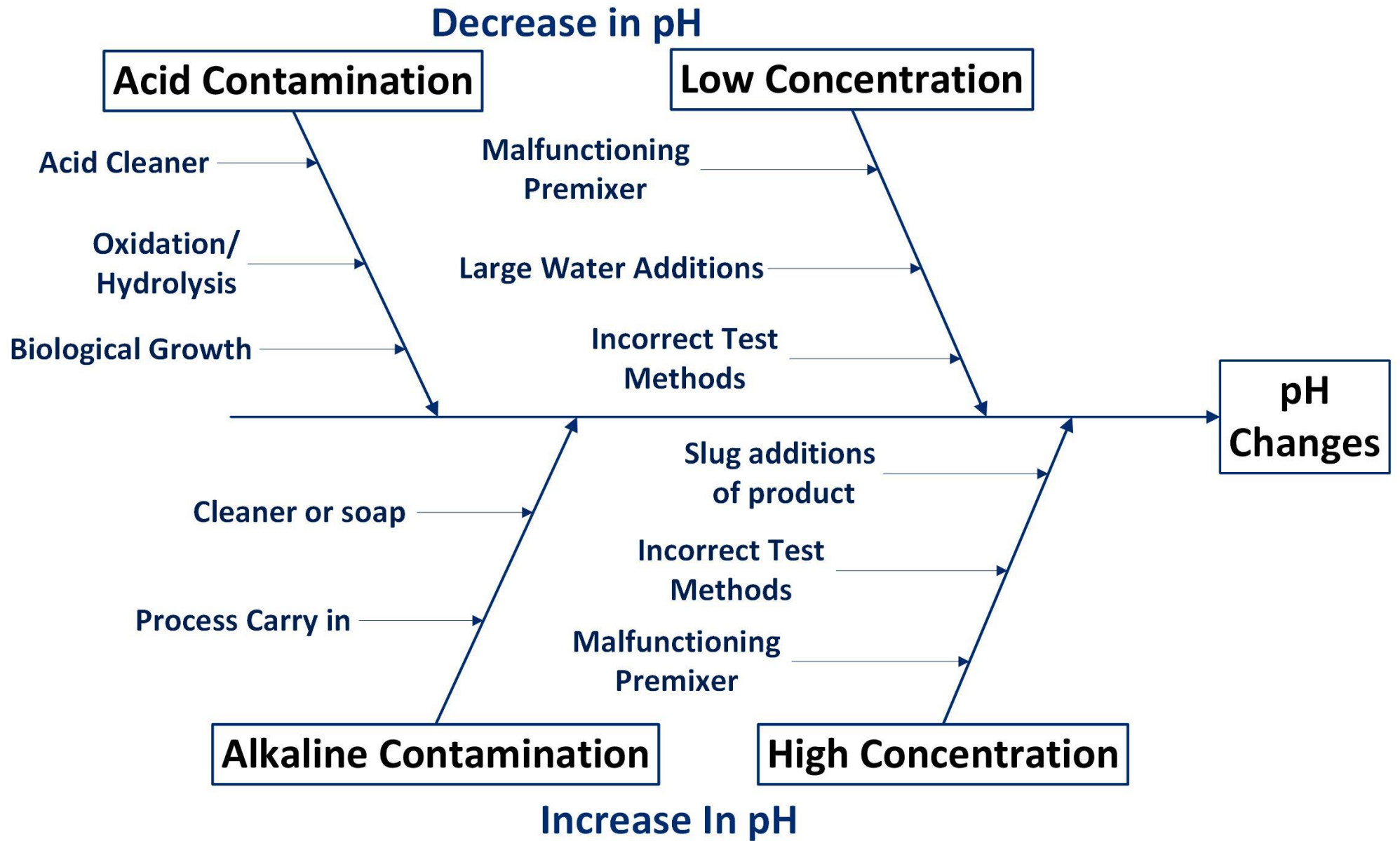
Agenda

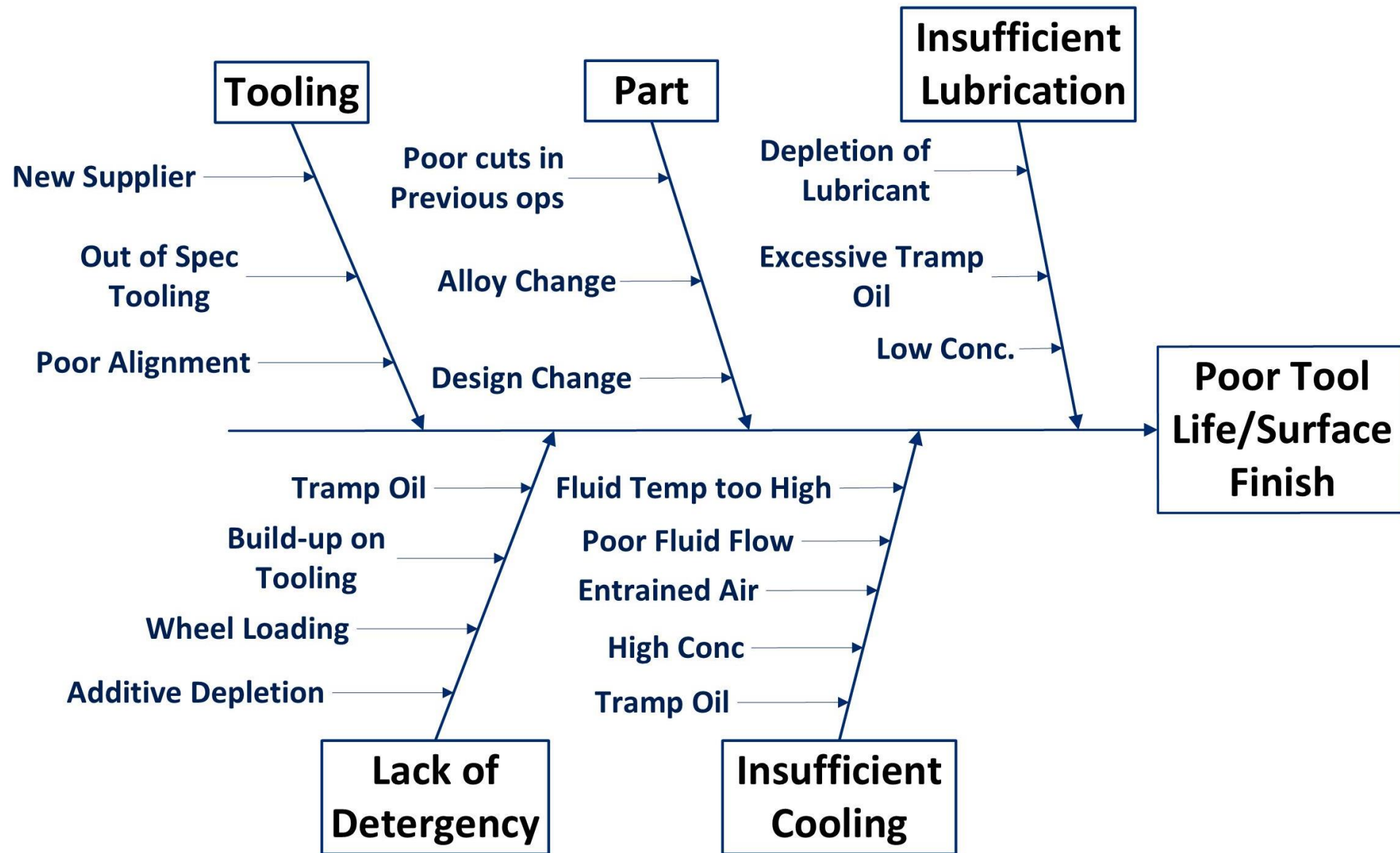
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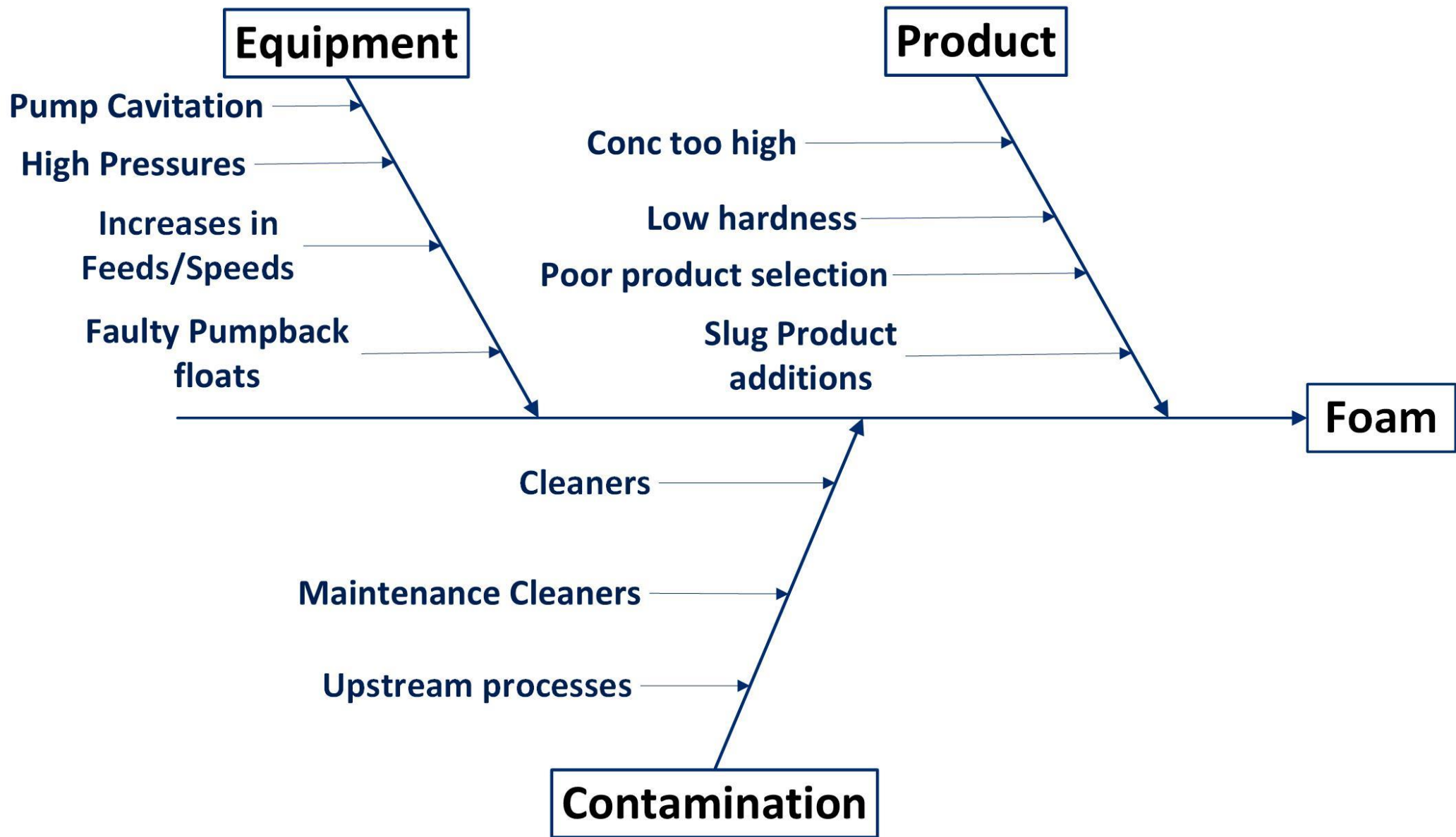
Ask yourself 3 questions...

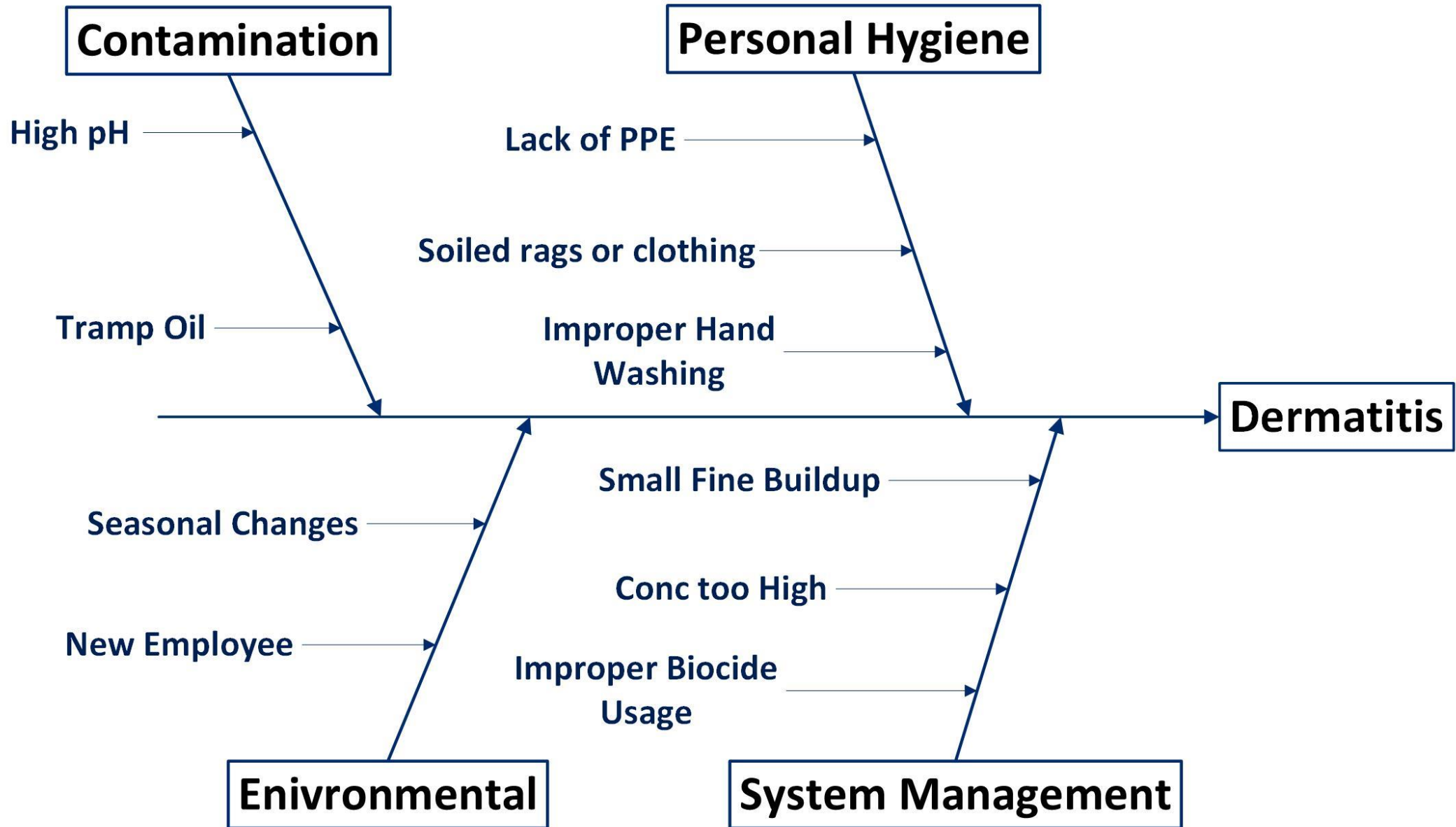
- 1) Is the reported issue really a problem?
- 2) What is the urgency of the situation?
- 3) What can I do to identify and correct the problem today?

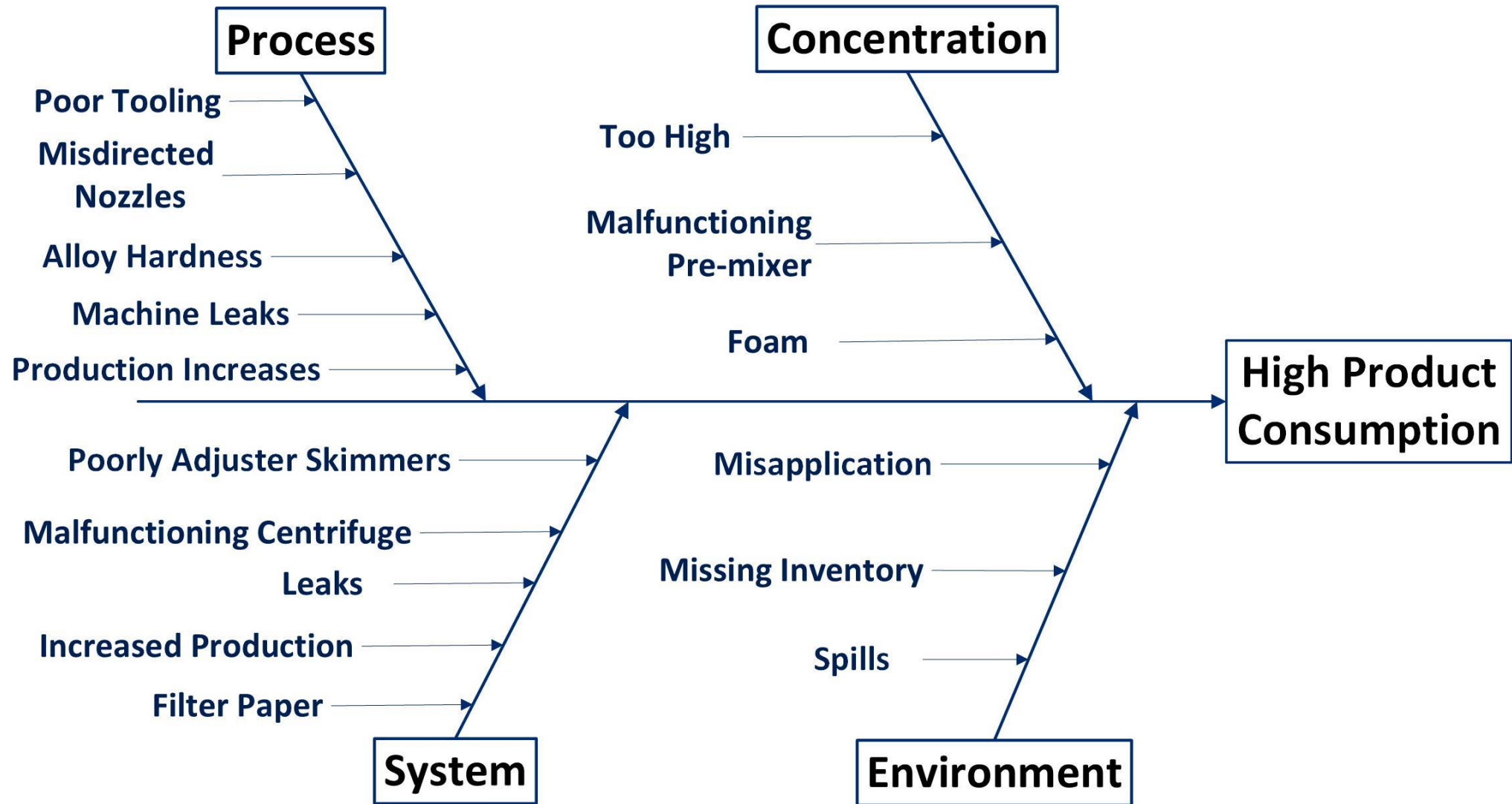


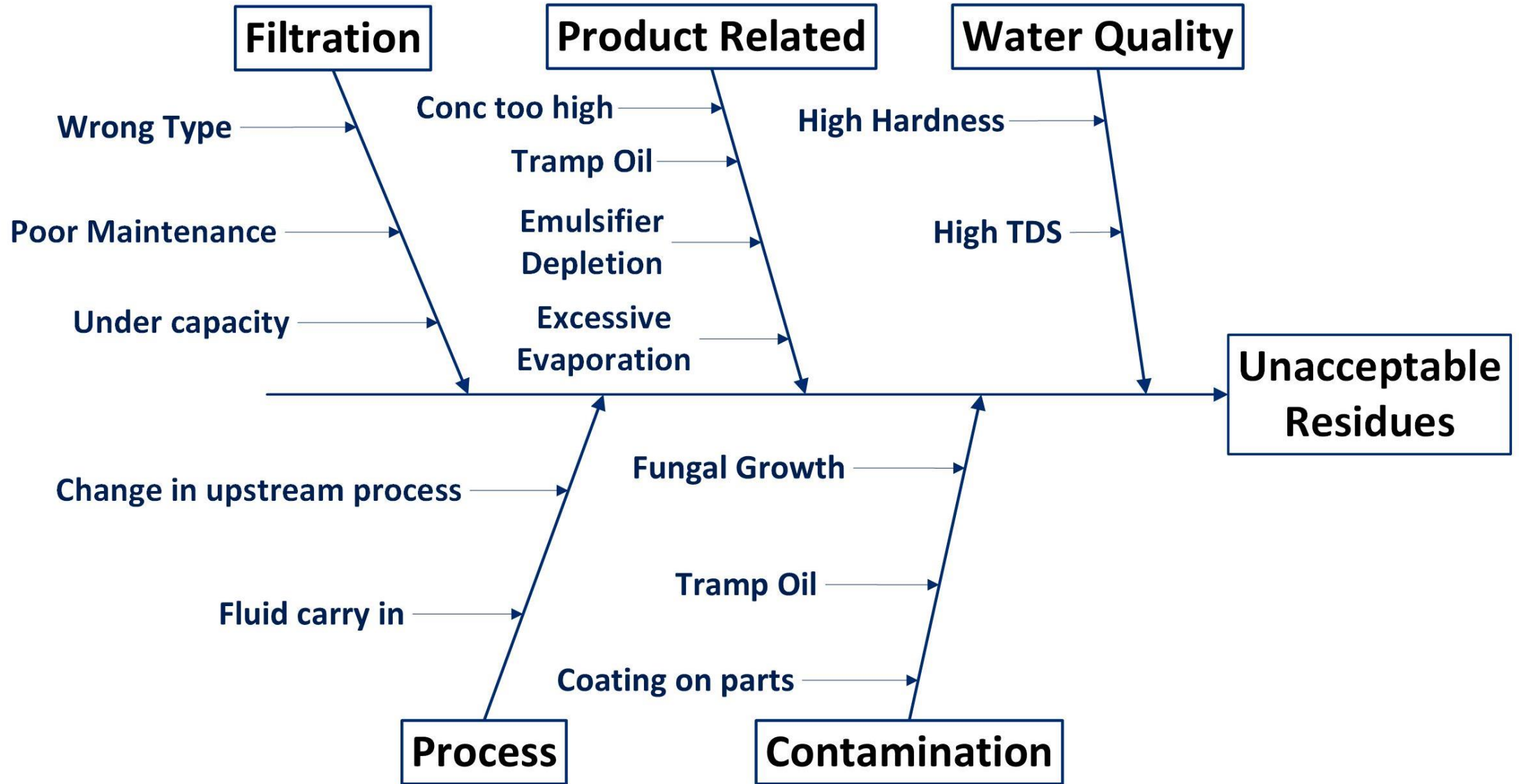


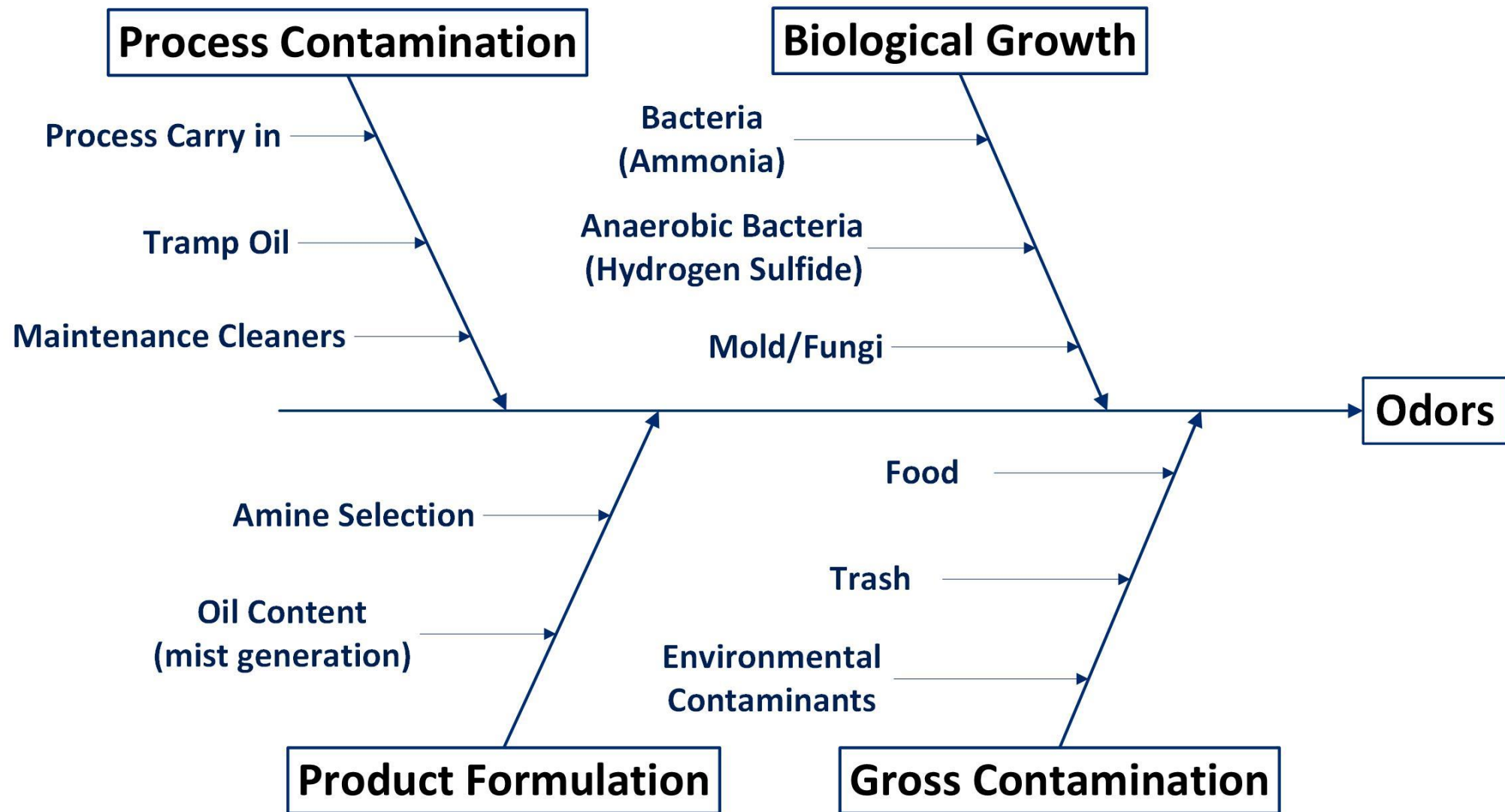












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QUAKERCOOL 7750

QUAKERCOOL 7750 – Metalworking Fluid Technology

- **Semi-Synthetic with excellent lubrication properties**
- **Minimal environmental impact**
 - NO Boron
 - NO Chlorine
 - NO Formaldehyde releasing components
- **Excellent Foam Control**
- **Excellent Emulsion Stability – Stable up to 1200ppm hardness**
 - Longer sump life = Lower coolant spend
- **Multi-Metal Compatibility**

QUAKERCOOL 7750

ONE Product for ALL machining applications...

- **Multi-Metal Compatible**

Steel	Ductile Iron	Aluminum	Stainless Steel	Yellow Metals	Titanium	High Nickel Alloys
X	X	X	X	X	X	X

- **Multi-Applications**

Grinding	Drilling	Milling	Tapping	Reaming
X	X	X	X	X

QUAKERCOOL 7750

ONE Product for ALL your machining applications.

- **Multi-Metal Compatible – Aluminum Alloys & Yellow Metals**

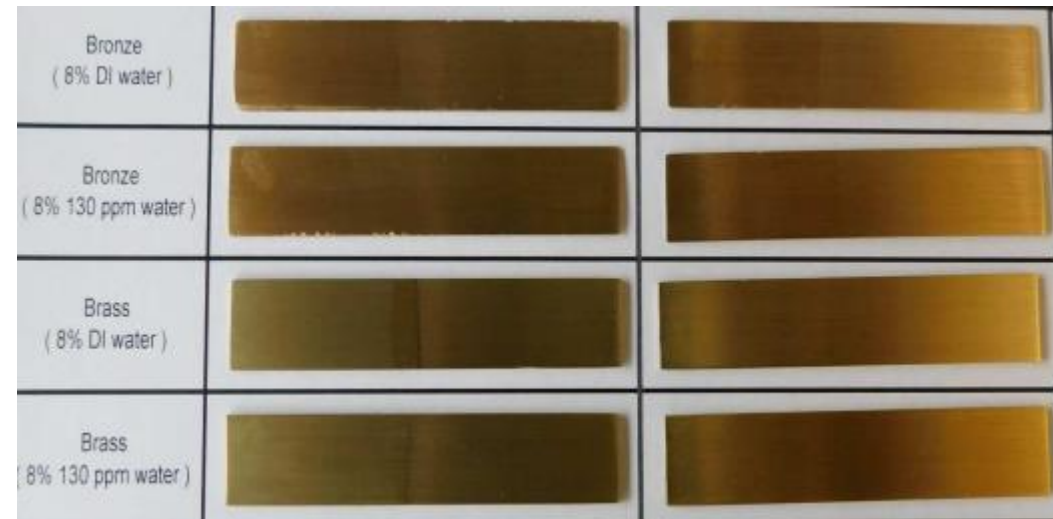
Soluble Oil

QC 7750



Soluble Oil

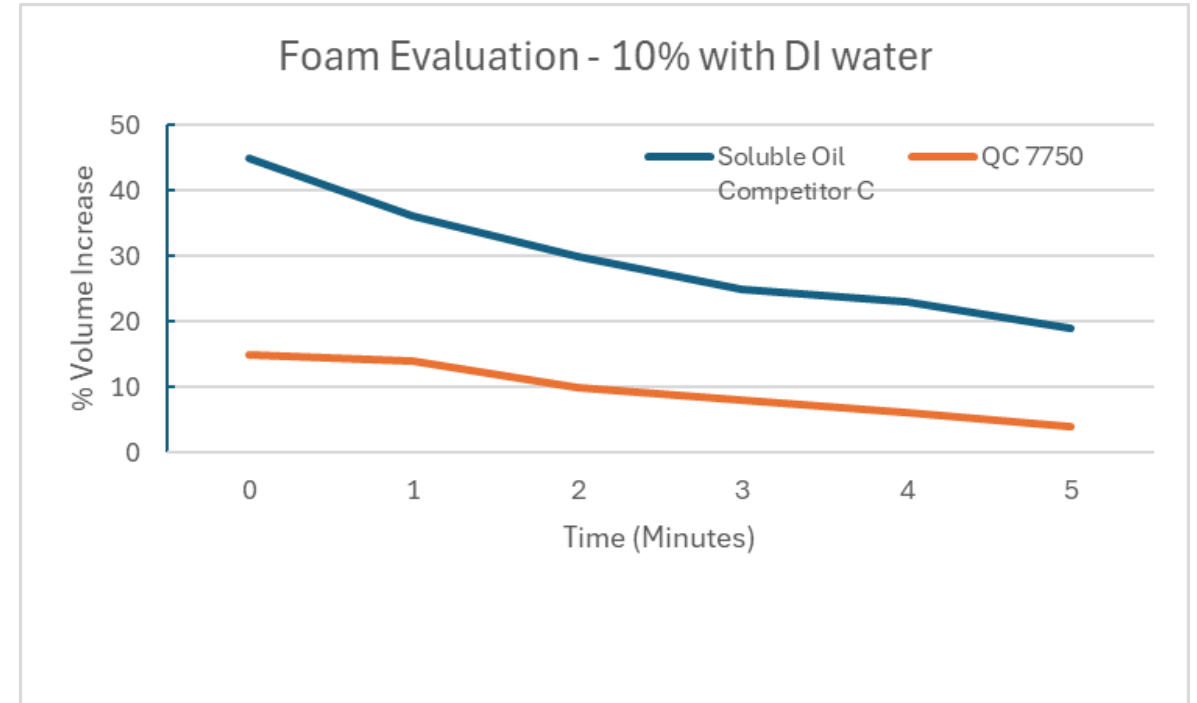
QC 7750



QUAKERCOOL 7750

ONE Product for ALL your machining applications.

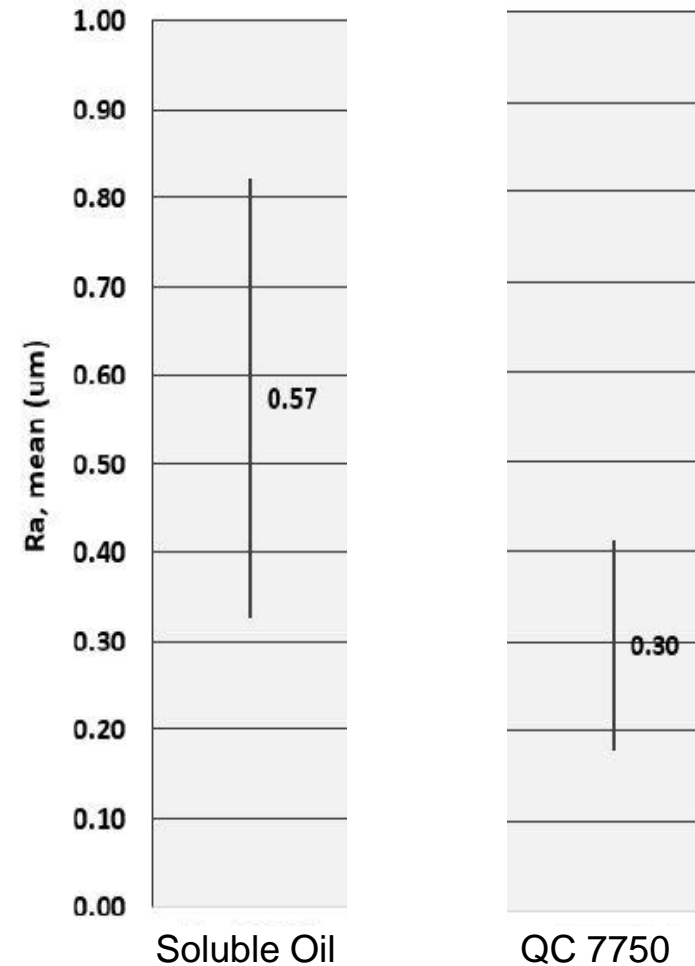
- **Excellent Foam Properties**
 - 10% product concentration
 - 0 ppm water hardness
 - QUAKERCOOL 7750 significantly better versus soluble oil competitor product.



Aluminum Machining – QC 7750

CNC testing – Surface Finish

- **QC 7750 demonstrated improved lubrication on aluminum alloys.**
 - 7075 Aluminum alloy
 - 7% product concentration
 - Competitive Oil Soluble = 0.57 Ra
 - QUAKERCOOL 7750 = 0.30 Ra

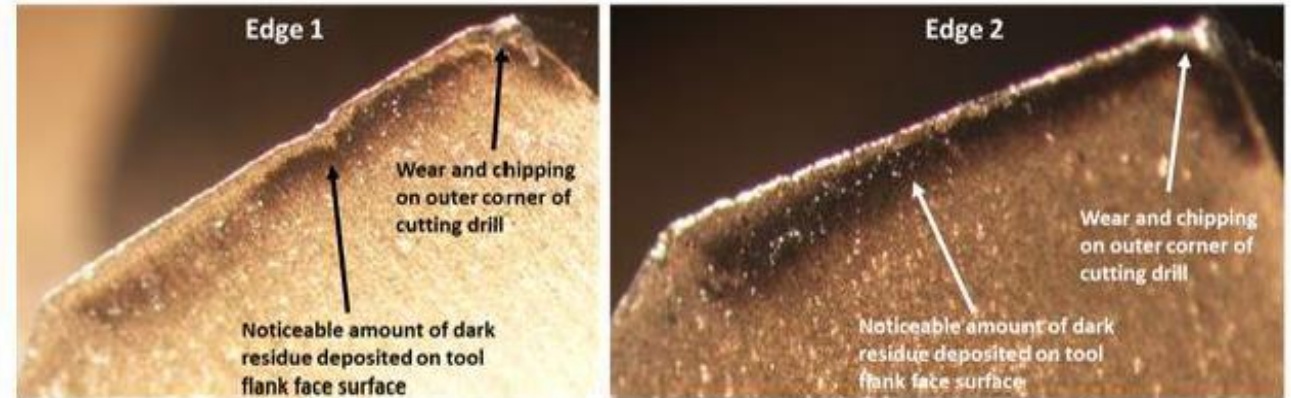


Stainless Machining – QC 7750

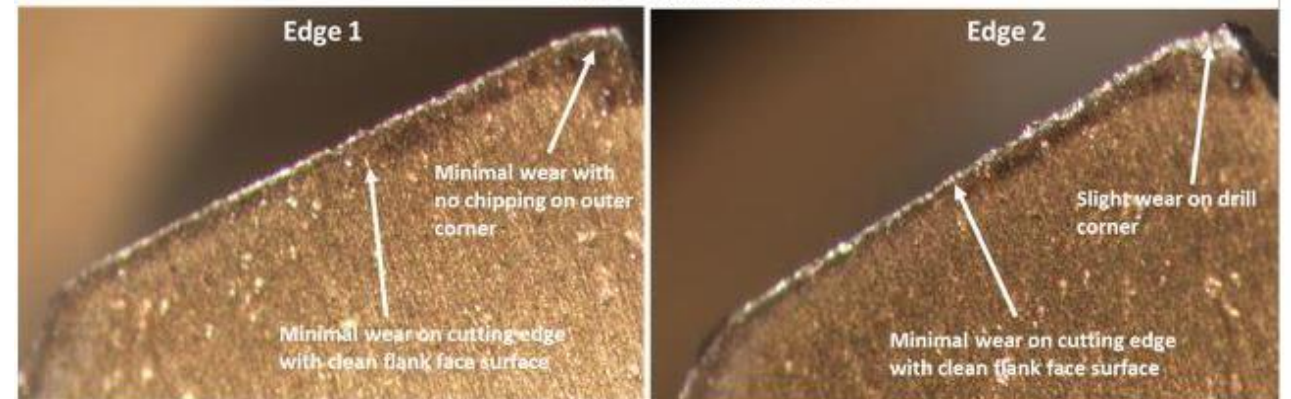
Soluble Oil Technology

CNC Testing – Tool Wear

- QC 7750 demonstrated improved lubrication on Stainless Steel.
 - 316L Stainless
 - 7% product concentration
 - Measured Tool Wear
 - Competitive Soluble Oil = 0.24 mm²
 - QC 7750 = 0.16 mm²



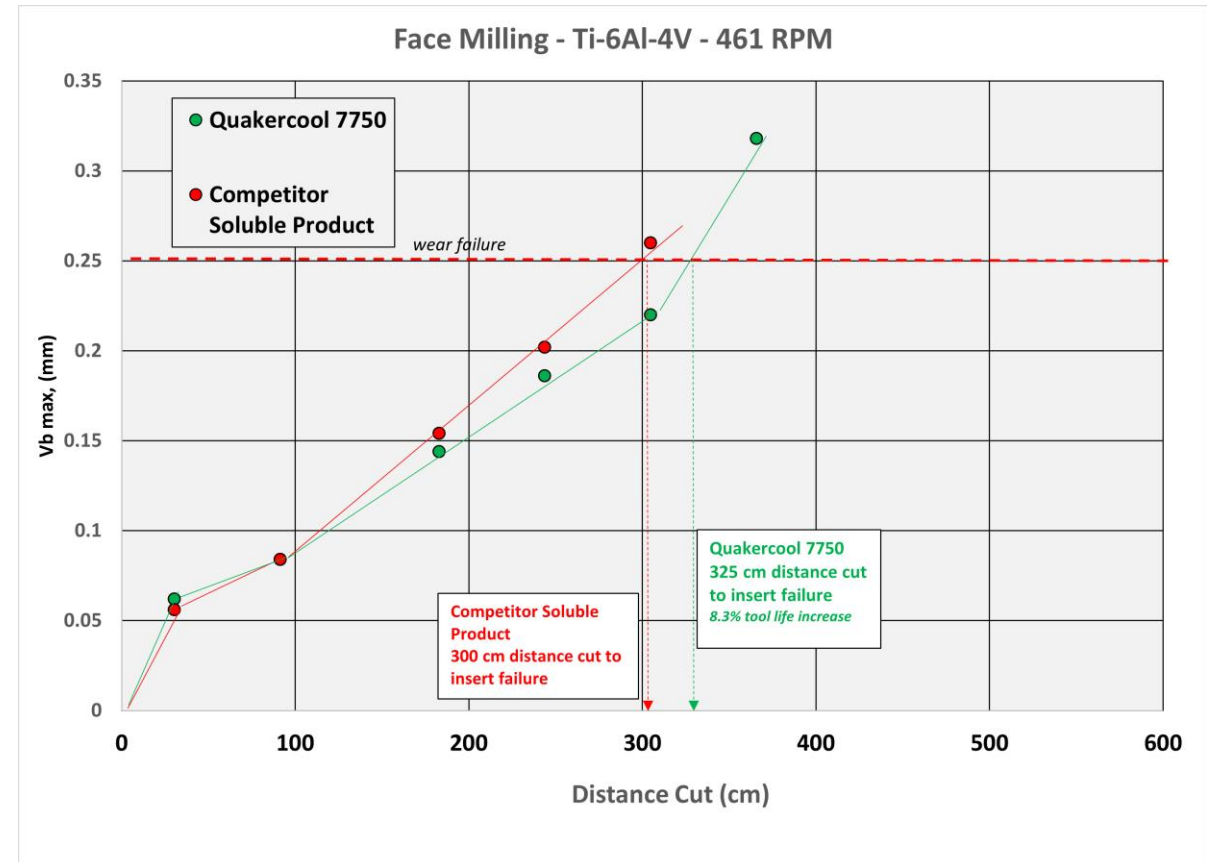
QUAKERCOOL 7750



Titanium Machining – QC 7750

CNC Testing – Tool Wear

- QC 7750 demonstrated improvement on Titanium alloy.
 - Ti-6Al-4V
 - 8.3% tool life increase
 - Measured Tool Wear
 - Competitive Soluble Oil = 300 cm
 - QC 7750 = 325 cm



QUAKERCOOL 7750 – Case Study

- **The Challenge**

- Global supplier of custom die cast parts across various industries
 - Problems with odor, dermatitis
 - Provide longer sump life
 - Performance issues – Residue: described as a greasy film

- **The Solution – Quakercool 7750**

- Superior Biostability & Excellent lubrication on Al
- Originally tested in 2 machines for 3 months
 - Operators reported lower residue and no skin irritation or odor.
 - Expanded to the whole department

- **The Benefits**

- Reduced consumption from improved biostability
- Competitor coolant running @ 10% concentration reduced to 7-8% using QUAKERCOOL 7750
- Extended sump life which reduced disposal costs & coolant/water usage
- Eliminated dermatitis and biostability issues

- **REDUCED PLANT OPERATING COSTS**

QUAKERCOOL 7750

Summary -

- **ONE Product for multiple applications**
 - Multi-Metal – Steel, Aluminum, Stainless, Titanium
- **Excellent Foam Control**
- **Excellent Biostability & Emulsion Stability**
 - Reduced product consumption
 - Longer sump life
- **REDUCED PLANT OPERATING COSTS**



Forward Together™

Thank You

